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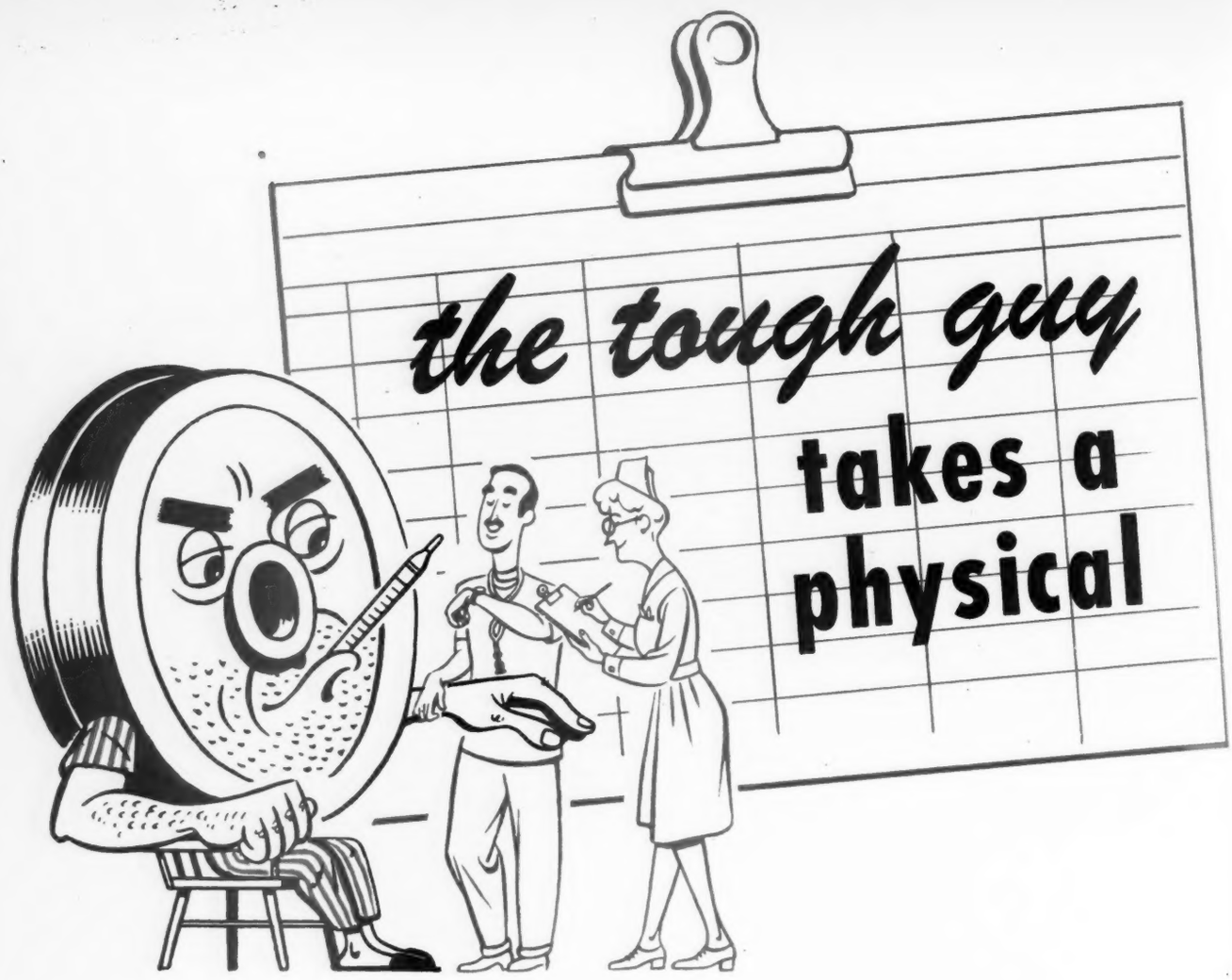
RAILWAY AGE

FEBRUARY 14, 1948



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RAILWAY AGE

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IN THIS ISSUE

EDITORIALS

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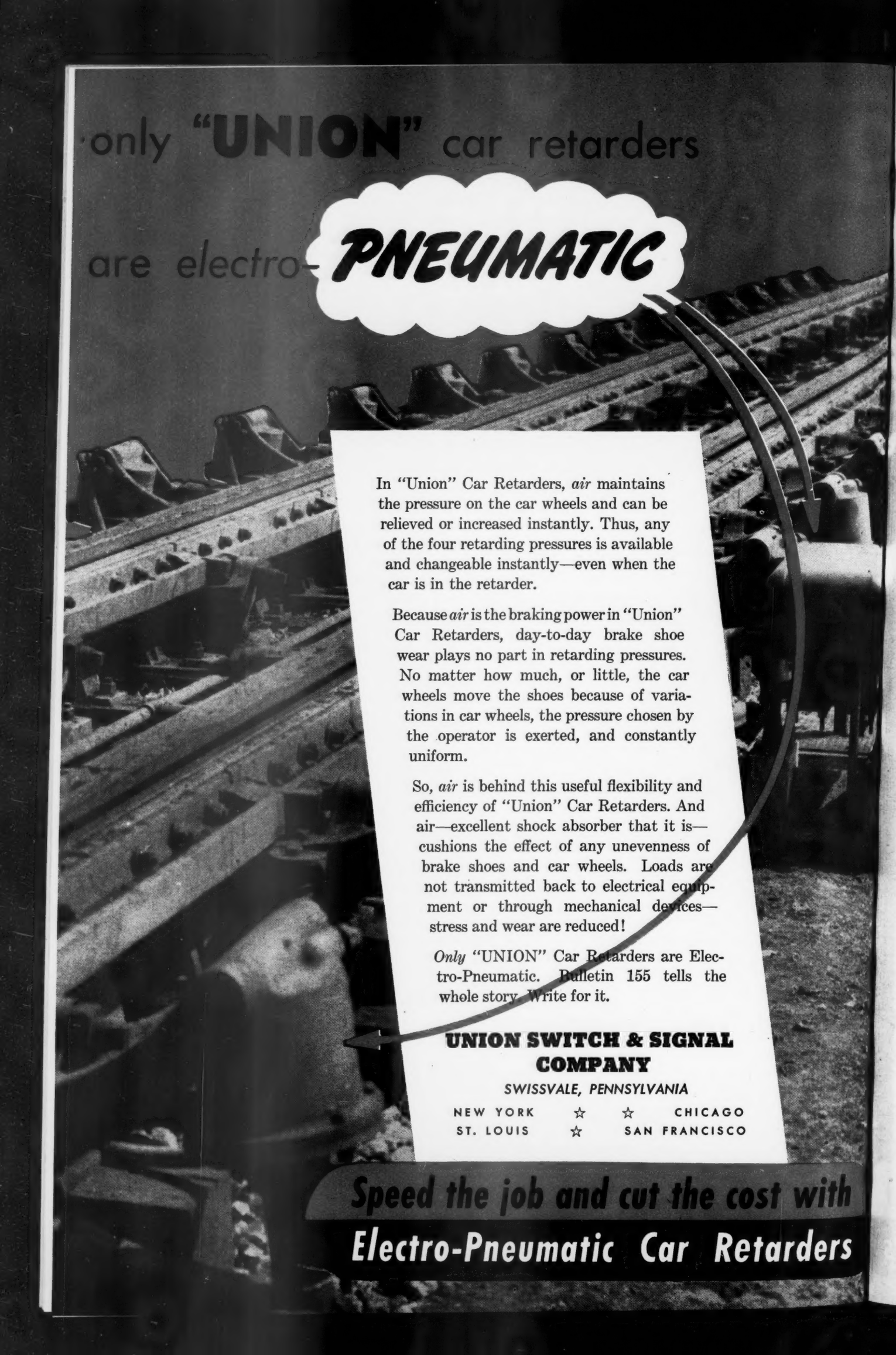

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WEEK AT A GLANCE

GOOD REPORT: This issue's leading editorial is a review of the recent report issued by President Truman's Air Policy Commission. Its general appraisal is that the report is a competent and forthright analysis of the vital and pressing problems of how this nation can attain reasonable security against hostile attack from the air. Meanwhile, however, the commission does not make as clear as it might have the vital distinction between the reasonableness and urgency of government development of military aviation and government promotion of civil air transport. Unless that distinction is recognized, dangerous public confusion is inevitable. Opponents of socialized transportation will be deluded into opposing adequate provision for military aviation, while civil-aviation interests will seek to put a "national defense" label on their self-seeking raids on the public treasury.

DIESEL-FUEL STORAGE: The increasing use of Diesel power has made fuel-oil storage, like coal storage, a problem of vital importance on many roads. The Southern, with 327 Diesel units in service, is one of them; and it has undertaken a program to provide at strategic points tanks with capacity for storage of two months' reserve supply of oil. The program is described in an illustrated feature article which appears on page 54.

MECHANIZING FREIGHT HANDLING: The war period's traffic volume and shortage of freight-house labor prompted the Northern Pacific to embark on a program of mechanizing its station operations. Practically all of its major stations are now mechanized to a greater or lesser degree, and the program is being expanded as rapidly as developments justify. N. P.'s experiences and some of the difficulties it encountered are set out in a feature article (page 59) by C. R. Opsahl, its supervisor of station service.

RULES ISSUES: The working-rules phase of the dispute between the railroads and the three holdout unions representing yard and engine-service employees involves the unions' demand for 30 rules changes and the carriers' counter-demand for 15 modifications. A feature article on page 51 sets out the proposals of both parties. The controversy, which also involves the unions' demand for a 30 per cent wage increase, is now before the emergency board appointed by President Truman after the unions had raised a strike threat.

ANTI-TRUST SUIT: The Department of Justice's anti-trust complaint against the western railroads and the A. A. R. got four days of further hearing last week in the federal district court at Lincoln, Nebr. The proceedings are reported in a news story herein. They were featured by the government's in-and-out position with respect to Secretary of Commerce Harriman, who was chairman of the Union Pacific when the assailed Western Agreement became effective. Mr. Harriman was not named in the original complaint, but government counsel on February 5 asked that he be brought into the case as a "co-conspirator." On the following day, the Department of Justice reversed itself, saying it would not name Mr. Harriman because he resigned from the U. P. chairmanship in 1941—three years prior to the filing of the complaint. Meanwhile, 34 individuals, including a number of railroad presidents, were dismissed as defendants.

LAST YEAR'S NET: The 1947 net income of the Class I railroads amounted to $480 million, A A. R. President W. T. Faricy announced this week. This compares with $293 million for 1946 which Mr. Faricy called "an abnormally low earning year." Last year's net railway operating income was $781 million, the rate of return being only 3.46 per cent. Comparable 1946 figures were $620 million and 2.74 per cent. Details are given in an article on page 63.

ROLLER BEARINGS FOR FREIGHT CARS: M. S. Downes, assistant general manager of the Timken Roller Bearing Company's Railway Division discusses the advantages of roller bearings on freight cars in a feature article on page 62. Aside from many intangible advantages, such as improved service, he finds that there are direct financial benefits in the resulting "freedom from trouble and reduced maintenance expense."

STEAM-TURBINE LOCOMOTIVES: Progress on the development of coal-burning, steam-turbine locomotives is appraised in a feature article (page 48) by John S. Newton, assistant manager of engineering in the Westinghouse Electric Corporation's Steam Division. Mr. Newton's purpose, as he puts it, is to establish the effects of steam conditions on important elements of a steam-turbine locomotive embodying a combination of design principles proved in other applications. And he expresses the hope that those experienced in the design of boilers and furnaces will agree with his view that there is reasonable prospect of meeting the steam capacity, efficiency and type requirements essential to the development of such a locomotive.

GOOD AND USEFUL HISTORY: Richard C. Overton, professor of business history at Northwestern University and former executive assistant of the Burlington, has often emphasized the importance of company archives to historians of business. He presented a further development of that thesis in a paper delivered at a recent joint meeting of the Business Historical Society and the American Historical Association. The feature article on page 57 is a condensation of that paper in which Dr. Overton reported that more and more the railroads are coming to realize the importance of setting their own histories out in the open. They are learning that such full disclosure is good public relations.

RAILWAY AGE

A PRAISEWORTHY REPORT ON AVIATION POLICY

The report of the President's Air Policy Commission—a book entitled "Survival in the Air Age"—is a competent and forthright analysis of the vital and pressing problem of how this nation can attain reasonable security against hostile attack from the air. The members of the Commission addressed themselves directly to their assignment—not digressing in an ocean of confused figures and verbiage to indulge personal ideological hobbies and prejudices, as so many writers of government reports have been doing during the past fifteen years. The result is a state document worthy of the time and attention of every responsible citizen, and one which can be read in two hours rather than the customary two months. The report is of special importance to railroad people—not only because of the intimate connection of this industry with all aspects of military defense, but also because air transport supplements and competes with the railroads; and any government policy, or lack of policy, in dealing with aviation has a direct bearing on the welfare of the railroads.

The government's legitimate interest in aviation lies wholly in military flying—not commercial air transport or the operation of pleasure craft, except as these may have to be fostered as necessary adjuncts to preparation for combat. A realization of this distinction is of primary importance—because government has no more urgent duty than the provision of adequate military defense, while federal hot-housing of civil aviation *per se* is, at best, a costly indulgence excusable only in a government with more revenue than things to spend it for. In its worst aspect, governmental promotion of civil aviation, without valid military excuse, is a further step in the socialization of transportation—on a par with toll-free superhighways and inland waterways.

Unless the reasonableness and urgency of government development of *military* aviation is clearly distinguished from government promotion of *civil* air transport, dangerous confusion in public opinion is inevitable. In the first place, opponents of socialized transportation will be deluded into opposing adequate provision for military aviation, which is a proper and necessary government function. Secondly, civil aviation interests will seek to put a "national defense" label on their self-seeking raids on the public treasury. This dangerous confusion can be avoided (1) if the military authorities will resolutely divorce themselves from all association with aviation projects which have no clear military connection; and (2) if anti-socialists, poising for a righteous swing at socialistic "federal aid," will make sure that it is really a prowler in the hen-house and not a conscientious constable who receives the haymaker.

The Air Policy Commission's report does not make this vital distinction as clear as it might have. It goes much farther than an abiding loyalty to the

principles of free enterprise can possibly justify in seeking to foster military air power by the indirect and expensive method of subsidizing civil aviation. But, then, the Commission was not given either the time or the assignment to adjust its program for air defense to the situation of the economy as a whole. The doctor was called in to set a broken arm—i.e., the air arm—and was not asked or permitted to see whether the patient might not have another painful fracture or two in his limbs a little nearer the ground.

With the foregoing reservation, it is hard to find much else about the report to criticize. The document is quite unique among pronouncements having to do with aviation in that it concedes a function of importance to the usually despised "surface carriers." Government aid to the air lines is advocated to provide "a fleet of aircraft of great value to the military services in time of war." But, if this is done, Congress is put on notice that it will need to "weigh the effect such a course would have on other forms of transport, since it might will raise the possibility of a subsidy or reduction in taxes to these forms to make possible the readiness for war loads on such transportation."

The report goes much further in favoring the claims of the air lines to an uneconomically arbitrary assignment of mail traffic than is consistent with a decent regard for the memory of Adam Smith. On the other hand, the air lines are sharply criticized for the irregularity of their service. In a "good-weather month"—June, 1947—it is reported that 89 per cent of all planes arriving in New York were late, and 41 per cent of the departures were behind schedule.

In discussing air mail, the report neglects to mention the evidence—of which there must be a great deal—that the time saved in faster line-haul of mail in the last couple of decades has been largely if not altogether dissipated by progressive deterioration in the speed of terminal handling.

On the matter of provision of air transport by "surface carriers," the Commission believes that this is desirable, so long as control of the "air transport system or any important segment thereof" is not involved. It opposes closing off aviation to other transportation companies "simply on the grounds that they are surface carriers—as now appears from the record to be the case."

All in all, this Commission has done a job in every way commendable—when allowances are made for the limitations placed upon its assignment. The report cannot be accepted as it stands because it gives inadequate weight to transportation factors which are important to air defense but were beyond the scope of the Commission's assignment—a handicap for which the members of the Commission are in no way to blame. What a pity it is that the Board of Investigation and Research under the 1940 Transportation Act were not manned by men of such caliber as this!

SOME FACTS ABOUT FREIGHT-CAR TRUCKS

Freight-car trucks are today limiting earnings, increasing maintenance expense and boosting damage claims, primarily because such a large percentage of those now in service are of older design with short-travel springs, no snubbing feature and, hence, largely unfitted for modern high operating speeds. Railroads are faced with a difficult decision. If freight-train speeds are reduced to a point at which old equipment, especially the trucks, can give a relatively smooth ride, ton-miles per train-hour will be sacrificed and shipments delayed in transit. If speeds are increased to give faster service and secure maximum benefit from modern motive power, excessive vibration occurs at critical speeds and both cars and lading are subject to damage.

Even modern freight trucks with all the latest features are sometimes criticized for not meeting entirely the requirements of present high speeds, to say nothing of the "super" speeds promised for tomorrow. Within present relatively fixed weight, space and especially price limitations, however, freight-car trucks of modern design, generally speaking, give an excellent account of themselves and, pound for pound, perform better than some other parts which are seldom if ever criticized.

As pointed out in discussion of this subject at the annual meeting of the A. S. M. E. Railroad Division, at Atlantic City, N. J., last December, a 50-ton freight-car body weighing about 45,000 lb., plus a load of 110,000 lb., or total of 155,000 lb., is carried on two trucks which, when made of Grade-B steel, weigh approximately 14,000 lb. This is a ratio of 11 lb. or load carried per lb. of truck weight.

By comparison, the modern cast-steel truck sideframe on a 50-ton car, embodying years of experience and improvement in design, metallurgy and foundry practice, supports 65 lb. per pound of its own weight and the cast-steel truck bolster, 90 lb. per pound of bolster weight. It is calculated that one-wear steel wheels carry 24½ lb. or revenue freight per pound of wheel weight and forged steel axles 34 lb. or revenue load per pound of axle weight. The latter ratio can of course be increased by using hollow axles, each of which weigh approximately 200 lb. less than the solid type. These are now being quite generally specified, when available, on freight equipment designed for maximum weight saving as well as reliability of performance.

In sideframe and bolster construction, the strength of castings has in many instances been greatly increased with an actual decrease in weight of the respective parts. For example, the 50-ton sideframe, made of Grade-B steel, weighs about 596 lb.. as compared with 517 lb. in high-tensile steel, the 50-ton bolster weighing 852 lb. in Grade-B steel

and only 655 lb. in high-tensile steel. This improvement in design and construction of detail truck parts is typical of the intensive effort being put forth to furnish even more effective equipment for all kinds of railway service.

HIDDEN LOSSES IN CLOGGED PIPE LINES

If the railways would investigate the condition of many of their underground water-service pipe lines, they would uncover one type of "hidden" or "buried" loss that is far too common. Losses are occuring here that need to be made as evident as those involved in clouds of unburned fuel blown from locomotive stacks.

Wherever water, and particularly treated water, is carried through pipe lines, the capacity of these lines is reduced progressively through age and incrustation. The result is reduced flow and higher costs of pumping. Moreover, fouled and restricted pipe lines sometimes require the purchase of auxiliary water supplies from municipalities, or necessitate the untimely renewal of existing lines or the laying of supplemental lines. They are responsible for many train-service delays. All of these things involve large economies waste — which can be avoided if the incrustation of pipes is prevented by proper treatment, or if the deposits are removed before they interfere with efficient performance.

Some railroads have employed both chemical and mechanical means for cleaning pipe lines for many years. One road has cleaned more than 100,000 lin. ft. of pipe during the past four years. In a number of cases on this road the carrying capacity of 12-in. pipe lines serving water columns had been reduced by incrustation to such an extent that the delivery of water to locomotives was only a little more than 800 gal. per min. After cleaning the delivery increased to 2,500 gal. per min., reducing the time required to take 10,000 gal. of water from 10 or 12 min. to 4 min.

Another railroad recently cleaned 8,500 ft. of 12-in. cast-iron pipe line which was no longer able to keep filled currently a 400,000-gal. water storage tank. As a result, a booster pump used to increase the line capacity was taken out of service; and it was possible to discontinue the purchase of about 350 gal. of water per minute from "outside."

There is doubtless more activity by the railways in uncovering and eliminating such losses as this than has been reported—but the conditions disclosed by each new pipe-cleaning job do not indicate that this important opportunity for economy has yet been given the attention it merits.

A CONTRIBUTORY CAUSE OF BOILER EXPLOSIONS

In his annual report for the fiscal year ended June 30, 1947, John M. Hall, director of the Bureau of Locomotive Inspection, again points out the psychological hazard which, if not the major cause of a large proportion of steam-locomotive boiler explosions, is certainly a major contributor to these accidents. "Anxiety to avoid stalling or to keep trains moving at the desired speed," he said, "is one of the various factors that lead to occurrence of accidents of the character described . . . 'Trading water for steam' in efforts to maintain the steam pressure should not be indulged in to the extent that normal safe water level is not readily visible in the water glass."

The Bureau's investigations of four of the 13 boiler explosions reported adduced evidence that the fact of low water was known to the crews before and at the time of the accident, and it is probable that, in all 11 cases in which no contributory causes were found, the engine crews knew, or should have known, the fact if they faced the clear indications of the water glass and gage cocks. In one case attempts had been made to raise steam pressure and get water into the boiler for a time estimated at 20 min. before the explosion occurred.

It has been suggested in these columns on other occasions that, because the men in charge of locomotives so seldom face low water, they are poorly conditioned to deal with it when it does occur. It is true that out of all of the locomotives and crews in interstate service in the United States during the last fiscal year only 13 of them were involved in such accidents. Percentagewise, these accidents would appear insignificant. But is there any adequate excuse for railway officers to be complacent when even four or five men virtually commit suicide, drag more than their own number down to death with them, and cause injuries to several times their own number? Does not the very infrequency with which crews are required to deal with low water make it even more imperative that systematic and persistent efforts be put forth to discipline engine crews to take the safe course?

The constant problem of operating officers is to keep traffic moving. This involves keeping enginemen and trainmen on their toes to avoid delays and, when delays occur, to reduce them to a minimum. The effectiveness of these efforts is indicated by the desperate attempts made by enginemen confronted with low water to restore the water level without taking the safe course, which would mean a complete engine failure. To the extent that such discipline is not accompanied by repeated instructions as to the safe course to follow, it constitutes a contributory cause of boiler explosions.

COAL-BURNING STEAM-TURBINE LOCOMOTIVES

Effect of steam pressures and temperatures on total steam requirements for turbine locomotives of various capacities*

By **JOHN S. NEWTON**
Assistant Manager of Engineering, Steam Division, Westinghouse Electric Corporation

The steam locomotive has moved most of the world's goods over land for so many years that it is hard to believe that future purchases of railroad motive power can long exclude it to the present degree. The fact that it is still the only form of motive power than can utilize the world's most abundant fuel—coal—should be reassurance that effort expended on its development will not be wasted.

Several attempts have been made in this country in recent years to build an improved form of steam locomotive. Success has been achieved in varying degree, but no locomotive has yet been devised which is of sufficient advantage over modern reciprocating steam locomotives to warrant more general adoption. In all cases where the fuel has been coal, a more or less conventional fire-tube boiler has been used. It is believed that a radical departure from past boiler practice is necessary, if a better coal-burning steam locomotive is to be built. This is not because the present

* A paper contributed by the Railroad division at the annual meeting of the American Society of Mechanical Engineers held at Atlantic City, N. J., December 1-5, 1947.

Fig. 1

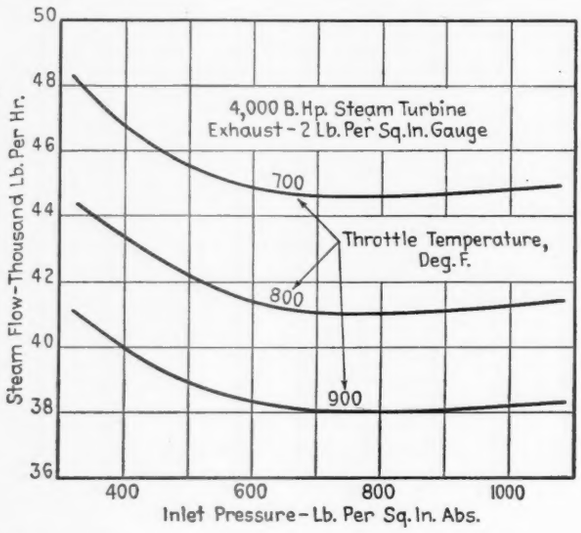


Fig. 2

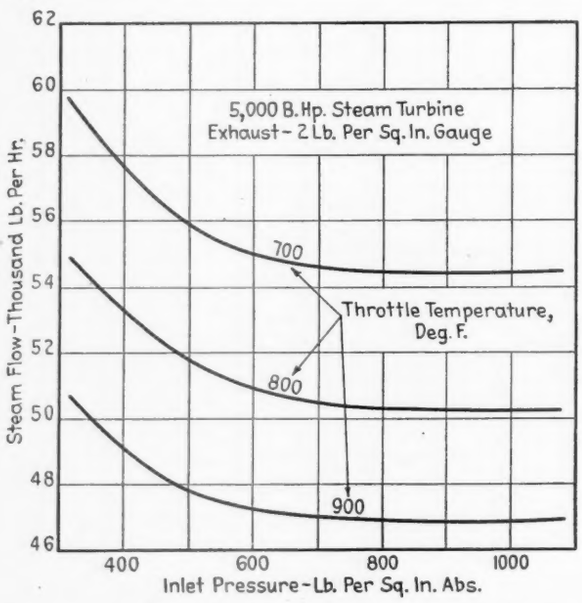
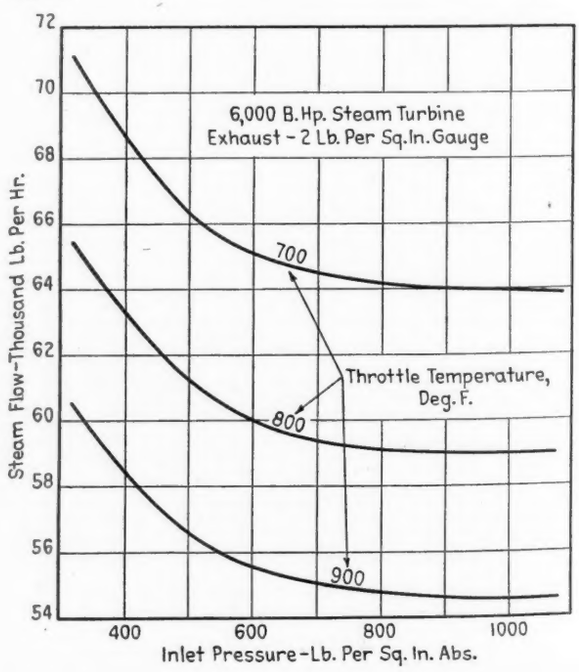


Fig. 1—Steam requirements of a 4,000-hp. locomotive turbine
Fig. 2—Steam requirements of a 5,000-hp. locomotive turbine
Fig. 3—Steam requirements of a 6,000-hp. locomotive turbine

Fig. 3



type of boiler is unsatisfactory, but rather because it has known limitations which preclude its use in securing desirable steam conditions for a steam locomotive of the future.

The purpose of this paper is to establish the effects of steam conditions and capacity on important elements of a steam-turbine locomotive embodying a combination of design principles proved in other applications. It is hoped that those experienced in the design of boilers and furnaces will agree that there is reasonable prospect of meeting the steam capacity, efficiency and type requirements essential to the development of such a locomotive.

During 100 years of development of the reciprocating steam locomotive, custom design in most respects has become accepted practice. This has been thought necessary because of prevailing wide differences in fuel, water, profile and operating conditions. The builders of Diesel-electric locomotives, however, have found that standardization is possible. This is due to the greater uniformity of fuel, the use of very little water and to the electric transmission. It therefore appears that in approaching a degree of standardization which has been found important, a steam locomotive should be provided with an electric transmission, or its equivalent, suitably treated water (already a practice of several railroads) and the ability to burn most coals, but not necessarily all of them.

Similarly, as trains have become longer and speeds have increased there has been demand for locomotives of increased capacity. Recent practice in steam-locomotive design has been to cram every bit of capacity into a steam locomotive that the right-of-way and turntables can accommodate, and along with this to carry as much coal and water as the design of a tender will permit. There is, of course, a purpose in so doing, but this practice is only one solution to the problem.

What Horsepower?

Examination of the purchases and use of Diesel electric locomotives discloses the fact that a large majority of our trains are being pulled by locomotives having 4,000 to 6,000 hp. in engine rating. In addition, many of these locomotives are being operated with substantially less than the rated engine capacity actually available for traction. Therefore, it would appear that a reasonably universal steam locomotive might have 4,000 to 5,000 hp. available for traction. The significance of establishing this capacity is that the boiler designer will have the opportunity to make an efficient steam generator within space limitations that may be reasonably allotted. The steam requirements will be reduced to a maximum generation in the range from 45,000 to 55,000 lb. per hr. instead of the 100,000 or more lb. per hr. required by large modern passenger and freight reciprocating-engine locomotives.

A set of curves, Fig. 1 to 4 inclusive, has been drawn to illustrate the effect of steam pressure, steam temperature and capacity on the steam required by a turbine for locomotive application. All data are on

Fig. 4

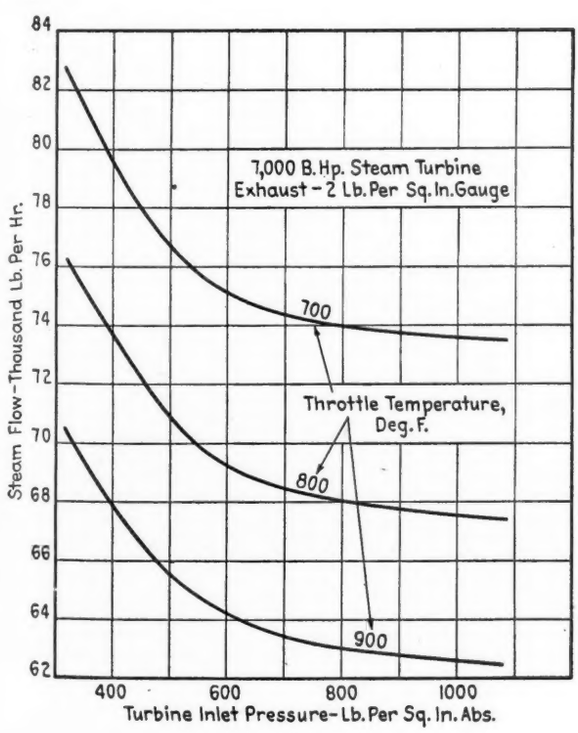
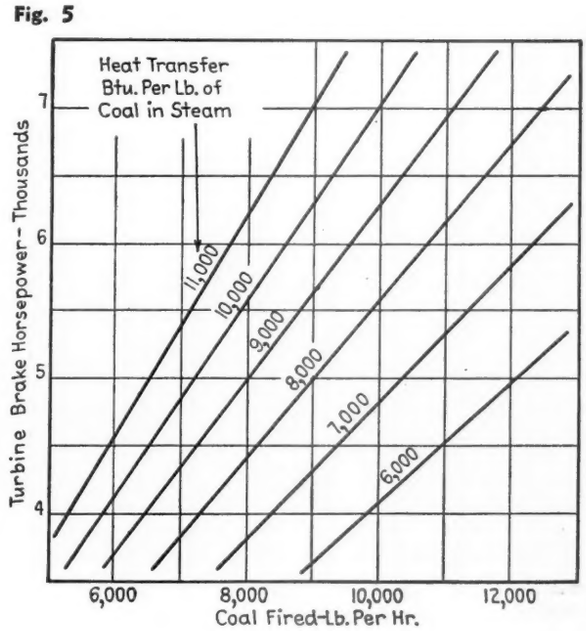


Fig. 4—Steam requirements of a 7,000-hp. locomotive turbine

Fig. 5—Coal consumption at rated capacity as affected by boiler efficiency and turbine capacity for 550-lb. per sq. in. and 900-deg. F. inlet conditions

Fig. 5



the basis of 2 lb. per sq. in. gauge exhaust pressure, which is adequate to assure exhausting steam clear of the locomotive but not enough to permit use of the exhaust steam to create draft. In consequence the necessary draft for the steam generator must be obtained with a fan, and preferably by forced draft.

Examination of these curves will show that both steam temperature and steam pressure have a marked effect on the quantity of steam required. If another curve were drawn for 1,000 deg. F. steam temperature there would be a further reduction, but there is doubt of the advisability of using the additional quantity of high alloy steel in a locomotive where as much operation occurs at low capacity and low temperature as at high capacity. There is very little reduction in the quantity of steam required for pressures over 600 pounds. This is particularly true for the 4,000-hp. turbine. The four illustrations, though quite similar, have been included both to show actual values of steam required and to show that a higher steam pressure is somewhat more desirable for a large locomotive than for a small one.

Coal Fired and Turbine Capacity

The total steam requirements of 45,000 to 55,000 lb. per hr. for a 4,000 to 5,000-hp. locomotive apply to steam pressures of 550 lb. or over and to a steam temperature of 900 deg. F. These conditions are considered entirely practical for locomotive service insofar as the main turbine and the larger steam-driven auxiliaries are concerned. The smaller auxiliary engines should operate on saturated steam. On the basis of operation in many industrial steam plants using treated feed water and 100 per cent make-up, it would appear that these conditions are also practical for a locomotive boiler.

A factor of increasing importance is the quantity of coal fired. Fig. 5 has been drawn to illustrate the relation between coal fired and turbine capacity. Boiler and furnace efficiency are drawn as a parameter by showing the amount of heat transferred to the steam. All these data apply to a turbine supplied with steam at 550 lb. per sq. in. and 900 deg. F. and with an exhaust pressure of 2 lb. per sq. in., gauge. The auxiliaries have been assumed to require one-sixth of the total steam generated. If, for example, a steam generator could be designed to transfer 11,000 B.t.u. of the heat in the coal to the steam, a turbine would develop 7,000 b. hp. for traction on 9,000 lb. of coal per hour.

Applying this to a specific case, if a boiler and furnace can be designed to absorb 10,000 B.t.u. per pound of coal burned (77 per cent efficiency for 13,000 B.t.u. coal), a turbine will develop 4,100 b. hp. on 6,000 lb. of coal per hour. If the locomotive operates at 80 per cent of this capacity for 10 hours, it will require about 25 tons of coal. Water consumption will be at a rate of about 4,200 gallons per hour. These figures are of extreme significance for they show that coal and water consumption per horsepower hour is about 60 per cent of any coal-burning steam locomotive now in operation. With the electric transmission coal and water carried may well be only one-half the present amounts for the same work done in certain territory.

One may conclude that the burden of responsibility for future progress rests with the designer and builder of the boiler and furnace. While this may be true to some degree, the requirements for this item of apparatus have been so drastically modified that he has a genuine opportunity to produce the practical, efficient, coal-burning water-tube boiler so essential to an improved steam locomotive.

Perhaps, in time, the coal-burning steam locomotive will be supplanted by some promising new form of motive power. However, these new forms of motive power that will utilize solid fuel appear to be a good many years from reaching a stage of development useful to the railroads. A logical plant in creating an improved steam locomotive is to make the best possible use of existing technical knowledge on all of its components.

This procedure should result in a locomotive more than competitive with the best on the railroads, plus utilizing coal as its fuel.

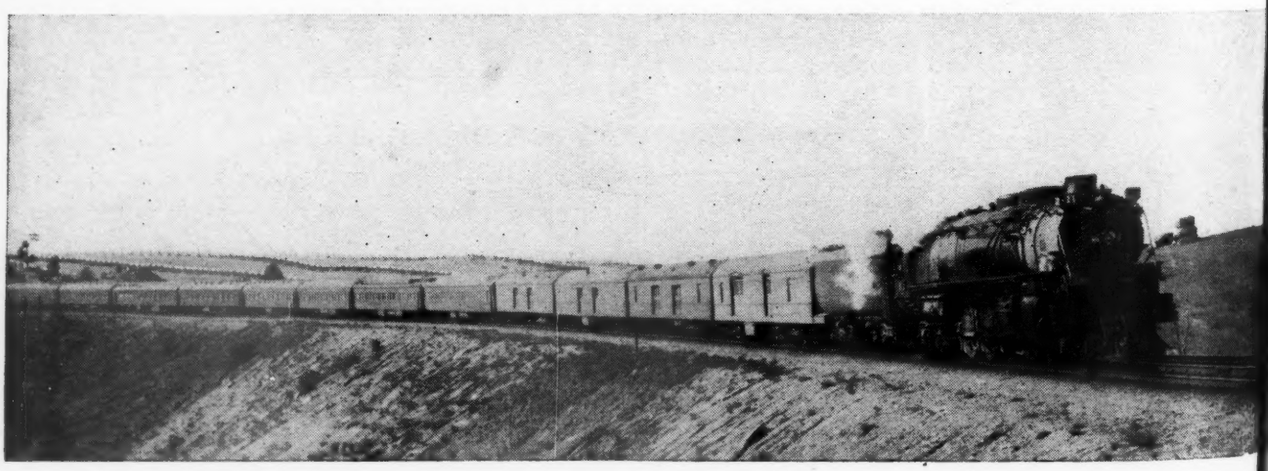


Photo courtesy of R. H. Kindig
The Union Pacific's "San Francisco Challenger" near Sherman, Wyo.

ISSUES BEFORE THE EMERGENCY BOARD

"Fact-finders" hear employees' demands for 30 per cent wage boost and 25 rules changes; carriers present 15 rules changes of their own

In an effort to avert a nationwide strike of railroad engineers, firemen and switchmen which was scheduled for February 1, the president of the United States, on January 27, created an emergency board to investigate the dispute between these employees and the carriers, and to report its findings within 30 days. The issues before that board—which opened hearings at Chicago on February 2—are joint demands of the Brotherhood of Locomotive Engineers, Brotherhood of Locomotive Firemen & Enginemen, and Switchmen's Union of North America for a 30 per cent wage increase, with a minimum daily increase of $3, and changes in 25 working agreements. These three unions, together, represent 9.4 per cent of the total number of railroad workers. In addition, the board has before it 15 carrier-proposed rules changes designed to increase operating efficiency and eliminate certain existing "featherbed" provisions.

Shown herewith are the rules changes proposed by the labor organizations compared with the existing rules or practices. Where reference is made to rates of pay, they are those existing prior to application of the proposed 30 per cent pay increase. The figures in brackets indicate the estimated annual cost to the carriers as stated in their opening statement before the emergency board. Carrier proposals which are before the board, together with comparable existing rule or practice, are also set forth.

Employees' Proposals

Minimum Rates. Minimum basic daily rates for freight engineers and firemen shall begin with the rate presently provided for locomotives weighing 250,000 lb. or more and less than 300,000 lb. on drivers. Minimum basic daily rates for yard engineers and firemen to be the local freight rate beginning with 250,000 lb. on drivers [$14,500,000].

These rates in road service presently begin with the rate provided for locomotives weighing 80,000 lb. or less on drivers, which is 93 cents lower than the 250,000-lb. rate, and advance in 4 steps to the 250,000-lb. rate. Basic daily rates for yardmen currently begin with the rate provided for locomotives weighing 140,000 lb. or less on drivers, which is $1.23 less for engineers and $1.04 less for firemen than the proposed 250,000-lb. local freight rate basis.

Pay for Hostlers. Rates for inside hostlers to be the rate applicable to local freight firemen on locomotives weighing 250,000 and less than 300,000 lb. on drivers. Differential between inside and outside hostlers to be maintained. Proposal applies similarly to hostler helpers [$3,000,000]. Basic day for inside hostlers is presently $9.08 (outside differential is 68 cents), $1.04 less than the proposed local freight firemen's rate.

Minimum Guarantees in Freight and Yard Service. Assigned employees, each time not used on their assignment, to be paid full mileage or hours, whichever is greater, including overtime and arbitraries. Regular assignments not to be established for less than 6 days per week. Unassigned, pool or extra employees to be guaranteed full mileage or hours of their turns each time not used thereon [$65,000,000].

Under existing agreements, employees not used, receive no pay if they have been properly notified. Unassigned employees receive no guarantee.

Pay for Yard Switchtenders. Yard switchtenders to be paid yard brakemen's rate of pay [$1,750,000]. Basic daily rate for yard switchtenders is currently $1.55 less than that proposed.

Pay for Yard Conductors. Basic daily rate for yard conductors to be not less than $1.50 more than basic daily rate for yard trainmen [$7,000,000]. Present differential is 52 cents.

Overtime Rate in Yard Service. Regular or extra men used on a second tour of duty in a 24-hr. period shall be paid time-and-one-half for that second tour [$3,300,000]. Under existing agreements, extra men working a second tour in a 24-hr. period receive straight time pay.

Regional Wage Differentials. Basic daily wage rates in effect in western territory to be not less than rates in effect in eastern and southeastern territory [$750,000]. Some agreements on western roads vary somewhat for service on Mallet locomotives, and provide differentials for firemen assigned to oil-burning locomotives.

Overtime in Short Turn-around Passenger Service. On short turn-around passenger runs overtime to be paid for all time actually held on duty in excess of 6 hr. within 8 consecutive hours and for all time in excess of 8 consecutive hours. Time to be counted as continuous when interval of release from duty does not exceed 1 hr. [$5,000,000]. Existing overtime base in this class of service is 8 hr. within a spread of 10 hr. and time in excess of 10 consecutive hours. Two one-hour release intervals are allowed.

Overtime Rate in Passenger Service. Overtime in all classes of passenger service to be paid for on the minute basis at time-and-one-half [$23,000,000]. Overtime in passenger service presently paid at an hourly rate of not less than ⅛ of the basic daily rate.

Pay for Motormen. Engineers operating motor or electric cars in multiple-unit passenger service to receive payment based upon the minimum rate for operating one unit with a higher rate for each addi-

tional motorized unit operated [$90,000]. Rate of pay not now based on number of controlled units or trailers operated.

Minimum Guarantees in Passenger Service. Assigned employees, each time not used on their assignment, to be paid full miles or hours including overtime and arbitraries. Regular assignments not to be established for less than 6 days per week. Unassigned, pool or extra employees to be guaranteed the full mileage or hours of their turns each time not used thereon [$23,000,000]. No monthly or daily guarantees presently provided.

Penalty Pay for Night Work. An allowance of 10 cents per hr. shall be paid for service performed between 6:30 p.m. and 6:30 a.m. [$14,500,000]. No existing differential.

Penalty Pay for Work on Sundays and Holidays. Pay to be at the rate of time-and-one-half for all service performed on Sundays and 7 national holidays [$88,000,000]. No existing Sunday or holiday differential.

Designation of Points for Going on and off Duty. Employees shall have a designated point for going on and off duty, such point to be the same place and established by agreement [$12,000,000 to $50,000,000 depending on interpretation]. No such provisions exist to cover road service. Yard employees have designated points for going on and off duty.

Pilot Service. Engineer pilots shall be used when trains are detoured over other railroads or over territory of another seniority district [cost not estimable]. Use of pilot and selection of craft is now the prerogative of management.

Engineers and Firemen Not to Flag or Throw Switches. Engineers and firemen shall not be required to flag or throw switches [$7,500,000]. Present practices usually permit engine crews to flag or throw switches in connection with the movement of their own engines.

Conversion Rule. Engineers and firemen in road service required to pick up or set off cars at 3 or more points, to perform station switching, to consume in excess of 30 min. switching at any point, or to load or unload freight or company material, shall be paid not less than local freight rates for the entire trip or day's work [$7,000,000]. Present practices vary considerably between carriers but are less restrictive than the proposed change.

Special Allowances for Terminal Delays. Employees propose special allowances for delay in excess of 45 min. in departing from initial terminal and for all time on duty after arrival at final terminal [$40,000,000]. Only a few carriers presently have terminal delay agreements. Where the latter do exist they usually apply only to passenger service, and are less restrictive than proposed.

Special Allowances for Time Held at Other-Than-Home Terminal. Employees held at other-than-home terminal shall be paid for time so held after the expiration of 12 hr. from time relieved from previous duty, at the regular rate per hr. paid for the last service performed. If held 12 hr. after the expiration of the first 20-hr. period, they shall be paid continuous time for the next succeeding 8 hr., or until the end of the 20-hr. period, and similarly for each 20-hr. period thereafter [$36,000,000]. Under existing rules employees held at away-from-home terminals receive 8 hours' pay for each 24 hr. so held.

Pay for Deadheading. Employees shall be paid for deadheading at not less than the rate applicable to the class of service and engine used in the service deadheaded to or from [$3,500,000]. Existing deadhead rules vary greatly between carriers. Rate is usually at minimum-engine weight (80,000 lb. on drivers) and is not paid when employees are deadheading to exercise seniority rights.

Eating and Sleeping Accommodations. Crews shall not be tied up at a point where satisfactory and adequate eating and sleeping accommodations are not available [cost cannot be estimated]. Generally in practice now.

Watch Inspection Allowance. When watch inspection is required, it shall be made while employees are under pay. Carrier shall bear cleaning and repairing costs necessary to meet carriers time service rules [$1,250,000]. Employees presently pay all maintenance costs other than inspection costs.

Saving Clause. Existing differentials for divisions or portions thereof, or mountain or desert territory as compared with valley territory—whether expressed in rates or constructive mileage allowances—to be preserved. Existing rules considered more favorable by committee on individual roads to be preserved [cost not estimable]. This clause gives employees the right to accept the national rules changes or preserve their existing agreements, whichever they consider more favorable.

[The above items number only 23 as three rules changes are grouped together under "Minimum Rates."]

Carriers' Proposals

Assignment of Train Service Employees to Self-Propelled Roadway and Shop Equipment. Train service employees shall have no claim to man self-propelled roadway and shop equipment, and management to be the judge of the need for such services. At present, train service employees frequently claim right to man track-operated self-propelled equipment incapable of being readily lifted off track by hand.

Assignment of Train Service Employees to Motor Cars. Train service employees shall have no claim to man motor cars used for inspection, maintenance, telegraph or telephone work, and management to be the judge of need for such service. At present, train service employees frequently claim right to man track-operated self-propelled equipment incapable of being readily lifted off track by hand.

Use of Train Service Employees for Flagging in Maintenance of Way and Construction Work. Use of train service employees in this connection to be at the discretion of management. At present, train service employees frequently claim right to this work.

Use of Road Crews to Perform Work in Yards. At stations or yards where no yard crews are employed, or are not on duty at the time, road crews may be called upon to do switching. Where yard crews are on duty, road crews may be called upon to do switching in connection with their assigned train. Road crews are not now generally allowed to do switching where yard crews are maintained.

Use of Trainmen and Yardmen to Couple and Uncouple Air Hose and Release Air Brakes. Trainmen and yardmen may be required to couple and uncouple air, signal and steam hose, to unhook vestibule curtains, and to make air tests. Trainmen are not now required to do this work when carmen are on duty.

Use of Supervisory Officers or Employees for Incidental Service. Rules, customs or practices which restrict work that may be performed by yardmasters and other supervisory officers or employees shall be eliminated. Employees generally claim pay for train service men when supervisory forces assist crews by throwing switches, giving signals, or other service.

Right of Management to Establish and Eliminate Yard Engine Service. Management shall have the exclusive right to establish and abolish yard service and assignments. Employees have generally held that yard work to which seniority is held by yard men might not be turned over to road crews.

Right of Management to Designate Switching Limits. Management to have the exclusive right to designate and change switching limits. Employees have generally held that such changes must be made subject of negotiation and agreement.

Starting Time for Yard Crews. Rules to be adjusted to give management more latitude in assigning starting times for yard crews. Present rules provide fixed times at which yard assignments may begin.

Right of Management to Establish Interdivisional Runs. Carrier to have the right to establish interdivision, inter-seniority district and intra-district runs in both assigned and unassigned service. Employees hold that such changes must be made subject of agreement.

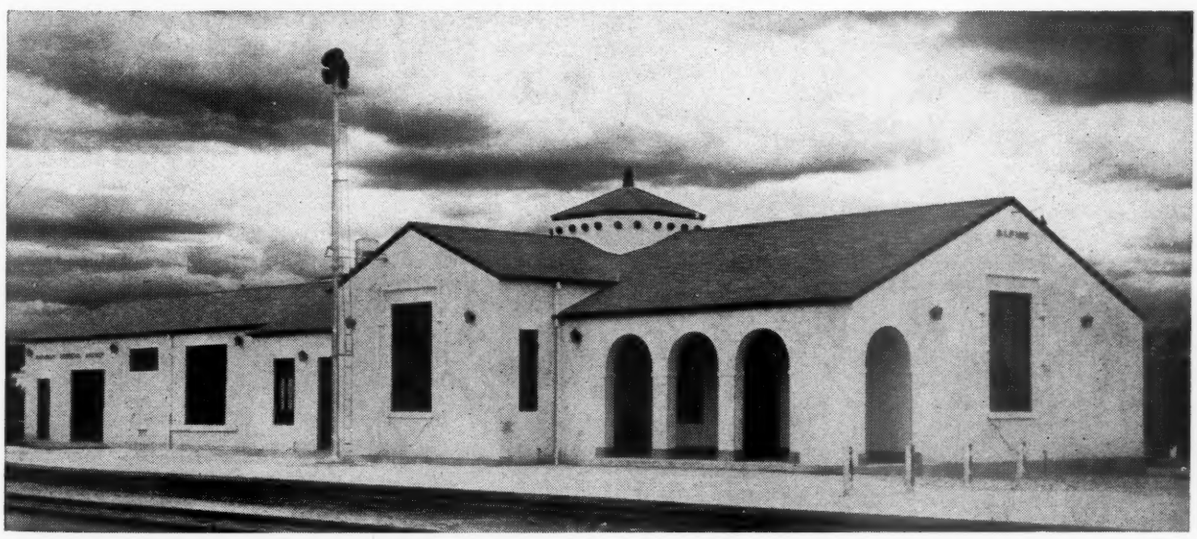
Special Allowances for Passenger Crews Assigned to Train Containing Freight Cars. Crews of trains composed entirely of cars equipped with "high-speed betterments" (signal lines, steam lines, trucks, and wheels permitting movement in passenger trains) to be paid at passenger rates, regardless of the commodities loaded in the cars, except that members of the crew required to load or unload l.c.l. freight will be paid local freight rate. Non-revenue shipments not to be considered freight in this provision. Under existing rules entire passenger train crews are usually paid the through freight rate if cars containing freight are in the train, or the local freight rate if any member of the crew loads or unloads freight.

Time Limit on Claims. Claims and grievances must be made in writing within 60 days from date of occurrence. If claims or grievances are disallowed, any appeal must be taken within 60 days from date of notice disallowing the claim. No time limit for claims, or for appeals to decisions thereon, are generally set under existing practices.

Limitation of Run-Around Payments. Proposal adds the following to the existing rule: "If under this rule payment for run-around is incurred it will be allowed only to the man or crew standing first out at the time of the run-around. No run-around payments shall accrue to or in connection with any crew called in turn but which does not leave the terminal in such turn." In its interpretation of the existing rule, the National Railroad Adjustment Board has often sustained claims providing run-around payments to employees other than those standing first out.

Limitations on Payments for Time Lost. Where payments are made for time lost, any earnings made in other employment during time out of service shall be deducted from amount due. This factor is not always covered in existing rules.

Overtime Rate in Passenger Service. Overtime in passenger service, except short turn-around service, shall be computed on a speed basis of 20 m.p.h. Overtime shall be paid for on the minute basis at 1/8 of the applicable basic daily rate. Proposal is a restatement of rule presently applying on most roads and clarifies intended base for overtime payment.



SPANISH ATMOSPHERE AROUND THIS STATION—Shown here is a passenger station that was opened recently at Alpine, Tex., by the Southern Pacific Lines in Texas and Louisiana. Constructed of white stucco, of Spanish design with red fireproof roof, the new structure is 37 ft. wide and 135 ft. long, not including an extension platform for handling freight and passenger business. Space for the Railway Express Agency is provided. The new station replaces a wood structure that was destroyed by fire

EXPANDS DIESEL FUEL STORAGE CAPACITY

Faced with a rapidly increasing demand for such oil the Southern has undertaken a program to provide tanks at strategic points sufficient to hold two months' reserve supply

With the increasing use of Diesel power for road haul and switching service, fuel-oil storage, like coal storage, has become a problem of vital importance on many railroads. The protection of current operating needs, price considerations and other factors require that adequate storage facilities be provided at points of use to maintain a constant reserve supply sufficiently large to meet current demand as well as to cope with emergencies.

One road that has faced this problem in a large way, with its growing fleet of Diesel power, is the Southern Railway System, which now has 71 Diesel passenger units, 148 Diesel freight units, and 108 Diesel switchers operating over its 8,000 mi. of railroad in 13 states in the south. Locomotives consist of from one to four units each, and embrace a total of 327 units with combined horsepower of 429,350. In addition, this road has on order a total of 85 units, 60 for road freight service and 25 for switching and transfer service, which represent 118,000 additional horsepower.

To fuel its Diesel locomotives, the Southern from time to time has installed fuel storage tanks at many points on its lines, and it is currently engaged in the enlargement of these facilities at points of greatest immediate and prospective demand.

General Plans

A study of storage facilities on this road early in 1946 showed a combined capacity of 2,100,000 gal. at 25 locations, with tanks ranging in capacities from 1,000 gal. to 258,000 gal. The monthly consumption of fuel oil at that time at each fueling station ranged from 2,000 gal. to 400,000 gal., with total consumption per month approximately 4,971,000 gal. for the entire system.

With the addition of the 85 new Diesel units, fuel consumption will be greatly increased, thus placing a burden on the existing facilities. Furthermore, some reserve supply of oil is required to meet emergencies, such as unforeseen delays in production or delivery. In view of this it was decided to enter on a program

Facing page—A 1,000,000-gal. oil-storage tank under construction on the Southern. The tank is 66 ft. in diameter and, when finished, will be 40 ft. high. Here the foundation (above) for a 1,000,000-gal. fuel-oil tank has been prepared. Concrete mixer in foreground was used to produce a mixture of sand and oil for application over the surface of the foundation

of expansion of existing facilities at the various locations, taking into consideration the additional power to be delivered and the need for reserve storage tanks. This program is based on an ultimate storage capacity of sufficient size to store a two months' supply.

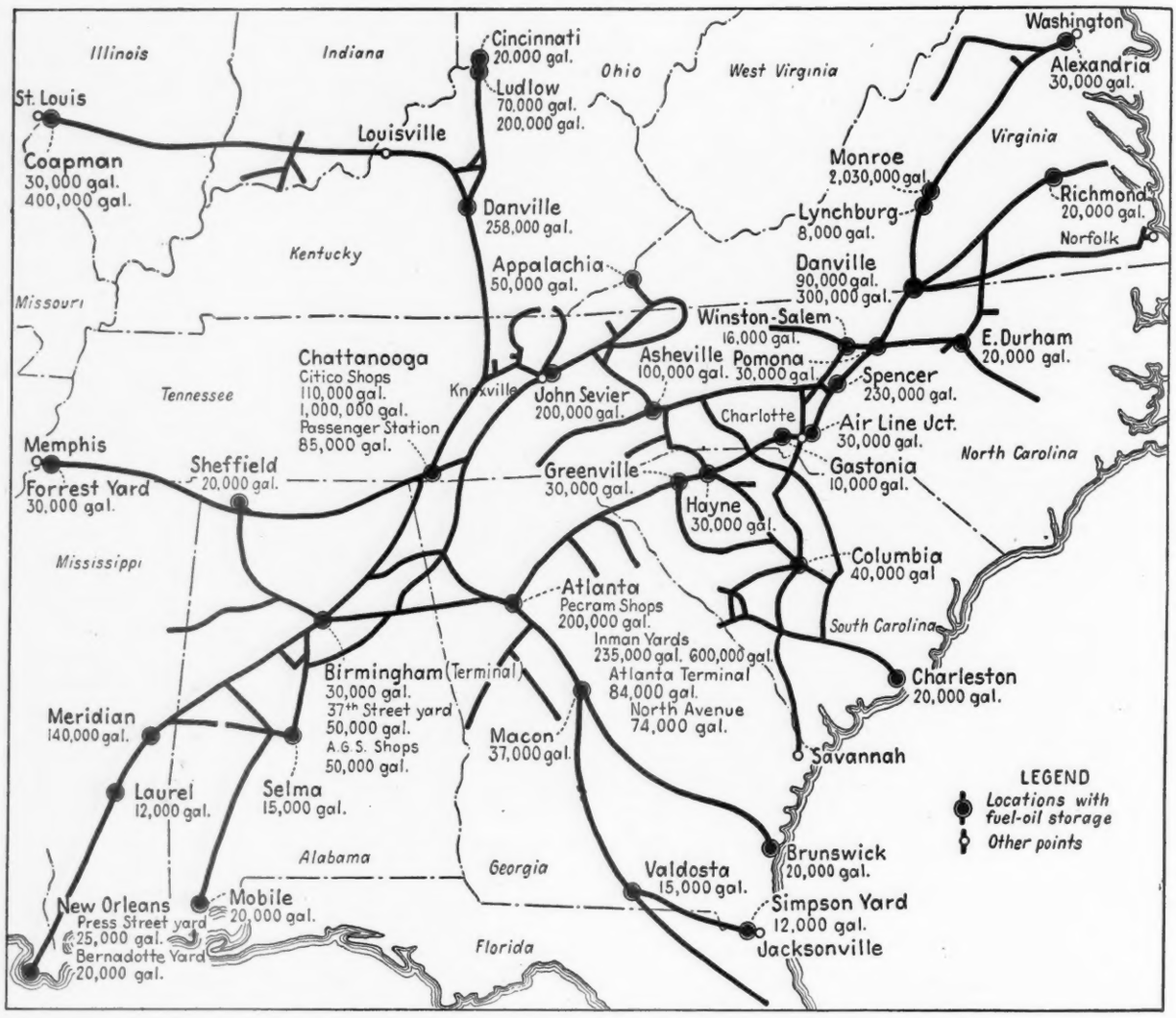
New Installations

New storage tanks are now being built at 18 different locations on the system, varying in size from 20,000 gal. to 1,000,000 gal. Upon completion, the oil storage at the various locations will range from 8,000 gal. to 2,030,000 gal. at the point of largest storage; the combined capacity of 43 separate locations will then be 7,160,000 gal.

The new tanks are of two types. Those with a capacity of 25,000 gal. or less are of the horizontal type, and those over 25,000 gal. are of the vertical type. The horizontal tanks are shipped from the factory completely fabricated and are placed on concrete pedestals by company forces. The vertical tanks are erected by the manufacturer at the site, on foundations constructed by the railway company. All tanks are of welded construction and are painted on the outside with one prime coat of zinc chromate and two coats of black bridge paint. The insides of the tanks are not painted. All vertical tanks are constructed with 18-in. diameter sumps 18 in. deep, with siphon pipe and valve so arranged that all of the oil may be removed for cleaning or repairing the tanks.

The foundations for the vertical tanks are constructed to rigid specifications by the railway company, and each tank is provided with an earth dike around it, sufficiently high and distant from the tank to provide an emergency reservoir for the entire contents of the tank. Where local conditions permit, the tank is located in a well-drained area on ground capable of supporting a load of 3,000 lb. per sq. ft. Under the foundation specifications set up by the railway, which are for tanks not exceeding 40 ft. in height, the foundation area is first cleaned of all loose material and then cut to firm bearing soil on a gradient of 1½ in. in 10 ft., descending radially from the center of the tank to the perimeter. Any backfill that may be required is made of firm material and thoroughly compacted by means of a sheepsfoot roller or air tampers.

Upon the finished subgrade a mat is placed consisting of graded gravel or medium-size stone, the material being put down in layers not over six inches in depth and thoroughly compacted by rolling or tamping until a thickness of 10 in. is reached. After the mat has reached this thickness, it is covered with sand and further tamped until the voids have been filled. It is then covered with a 3-in. sand cushion spread uniformly over the top, retaining the original gradient of 1½ in. in 10 ft. from center to perimeter. Before being placed, the top layer of sand is mixed with Bunker C oil or a low grade of fuel oil free from sulphur, a



This map of the Southern System shows the Diesel fuel-oil stations and the storage capacity at each location

concrete mixer being used for this purpose. A concrete ring curb is required around the outer edge of the foundation to hold the sand and stone in place.

After the erection of a tank, the area between the tank and the dike and, where necessary, that outside the dike, is graded to permit drainage away from both the tank and the dike. Through each dike at the lowest level a drain pipe with valve is provided for the purpose of draining the dike area. The dike, constructed of either the natural ground or from material excavated from the site of the foundation, is 2 ft. wide at the top and has 1½-to-1 side slopes on each side. They are of various heights depending upon the capacity of the tank. In cases where the space available is limited concrete dikes are used.

Each of the many storage and fueling stations is provided with one or more pumps powered by electric motors. The pumping facilities vary in capacity from a single 100-g.p.m. pump and 3-hp. motor to stations using duplicate pumps of 200 and 300-g.p.m. capacity powered by 5-hp. and 30-hp. motors. Only one of the pumps at such installations is needed to meet the requirements, the second pump being a standby unit.

For each installation a fuel oil meter is specified of sufficient capacity to carry the output of the pumps. These meters, the dials of which are set at 45-deg. angles, have 10,000-gal. set-back counters and continuous counters integrating up to 1,000,000 gal. All meters have a separate air release by means of which air is automatically released from the oil as it is being pumped through the delivery line.

Another feature of each fuel-oil installation is a 30-mesh basket-type strainer installed on the suction side of the pump for removing heavy scale and other material from the oil. The road has practically standardized on a filter known as the element type. Elements for these filters are purchased on the open market and are discarded when their efficiency has been reduced to a certain point. Each filter is installed with a pressure gage on each side to indicate, through increased pressure, when the element should be renewed, and each has an air vent on top.

All work involved in providing the additional fuel-oil storage capacity on the Southern is under the direct supervision of A. B. Pierce, engineer of water supply, Washington, D. C.

GOOD AND USEFUL RAILROAD HISTORY

Why historians should use company archives; how findings can be made useful to railroads; necessity for background

By **RICHARD C. OVERTON**
Professor of Business History
Northwestern University

[*Editor's Note: This article is a condensation of the paper delivered by Dr. Overton at a joint meeting of the Business Historical Society and the American Historical Association in Cleveland, Ohio, on December 29. The author, who was for some years executive assistant of the Chicago, Burlington & Quincy, is now Professor of Business History at the School of Commerce at Northwestern University and serves as secretary of the Lexington Group, an informal association of historians, economists, railway officers, and others who are interested in research and writing in the field of railway history. As noted in the August 2, 1947, Railway Age, the Lexington Group recently participated in an inventory of Class I railroad archives; companies representing over 85 per cent of the total mileage responded and indicated they would be willing to consider opening their records to qualified historians. Dr. Overton's complete paper will be published in the February issue of the Bulletin of the Business Historical Society.*]

The importance of any research in railway history depends, I think, on whether we prove or disprove some hypothesis whose verification or rejection will substantially contribute to our understanding of the place of railways in the whole fabric of our national development. If a given research project holds no promise of eventually establishing its relation to society at large, I do not think it should be undertaken, for it will be nothing more than pure antiquarianism.

Of course, one cannot always tell in advance how significant a project will be, and sometimes a definite finding of irrelevance may be of value to future workers in the field. But there is one invaluable guidepost to relevance, and that is at least a general understanding of the intrinsic *facts* and *relationships* inherent in the vast institution we call railroads. In other words, one has to know something about railroads to start with in order to select an objective—or hypothesis—that will give promise of fruitful results.

Role of Railroads

It is superfluous to recall that railways have been an essential prerequisite to the development of American industry, commerce, and agriculture; they opened the great West, built cities, enabled us to fight our wars effectively, and have been one of the greatest forces towards nationalism in our history. All this they have done because they were transportation agencies, yet as such they were playing but one of their roles. Let us consider, for a moment, some others.

As citizens, railways have always had to pay taxes and obey laws just like anyone else. Countless communities have long depended on railway taxes to maintain essential public services; such taxes have often been the most significant factor in local tax programs. Our tax collectors have learned much of their trade from their experience in taxing the railroads! As citizens performing a public function, railways, particularly in the last 60 years, have had to obey an increasing and impressive body of local, state, and national laws. I think it is safe to say that the entire structure of administrative law has been modeled primarily on experience in railway regulation. So too have our laws concerning safety, workmen's compensation, retirement, and unemployment.

As the first and most lasting examples of "big business," railways have given rise to much of the legislation concerning trusts, consolidation, etc. And, of course, for the student of corporate organization and managerial technique, railways offer rich raw materials. The experiments and developments in functional and regional organization set patterns now firmly established throughout business.

Major Objects of Investment

As objects of investment, railways for over a century have played a dominant role in financial circles. They evolved new types of securities. As late as 1906 nearly 85 per cent of the bonds and fully half of the stocks listed on the "Big Board" were rail securities; even today the $15½ billion of railway stocks and bonds (in contrast, incidentally, to a $27 billion plant) cut a large figure in the financial community. Railways have evolved new types of securities and introduced new methods of financing, refinancing, reorganization, promotion, and other financial techniques .

As employers, railways often dominate local labor markets, and as of the moment they have on their payrolls some 1,377,000 persons who receive an average of over $3,000 apiece per year—over $4.2 billion in the aggregate—for their services. Thus the status of the industry directly affects national labor conditions; indeed railway labor history is a rich field in itself and one that business historians have virtually neglected, possibly because they persist in failing to

see the relation between labor policy and the spotlighted business decision.

As pioneers and community builders, railways literally created such cities as Dallas, Omaha, Council Bluffs, Indianapolis, Birmingham, and Atlanta, to mention but a few. They colonized the Great Plains, and introduced and encouraged new agricultural techniques.

Today the agricultural and industrial development departments of the larger systems are among the most active in the organizations to which they belong. Yet some business historians seem determined to relegate these matters to the local or agricultural or social historian because they fail to realize that to do business at all a railroad must have a thriving territory, and that *anything* which develops that territory is grist for a decision by railway management.

Broad Field of Inquiry

This recital of the manifold functions of the railroad could be continued and expanded indefinitely. I am attempting only a summary sampling here. But perhaps I have said enough to suggest answers to two questions: what is the importance of railway research, and what are the complexities?

I have tried to serve another purpose—to illustrate how absolutely essential it is to track down pertinent relationships regardless of whether they appear to be squarely within the limits of "trains, tracks, and travel" or not. The rainfall in Nebraska, the municipal tax policy in Georgia, the wording of a reciprocal trade agreement, the offhand answer of a trainmaster to an official representative of one of the labor unions or the guest list at an important banquet may and often does determine a vital railway policy, and thus affect the entire course of events. Unless you are willing to wander far from the right-of-way when necessary, you cannot write railway history.

Company Archives

Of primary important are the company archives themselves. I should like to say three things about them. First, they are by no means all "pro-company" in viewpoint. Like any organization of humans, a railway embraces men of widely differing viewpoints. These varying opinions usually come into clear focus, and often a minority position will, over time, become that of the majority. The sharpest critics of any specific policy, I am convinced, are within the organization, for outside critics, despite a possibly broader outlook, are seldom in possession of all the pertinent facts. Hence the historian who dismisses company archives as hopelessly one-sided simply does not know what he is talking about.

Second, company archives offer overwhelming proof of the point I have tried to hammer home: that railways are vastly more than "trains, tracks, or travel" and that you cannot write railway history—or any other kind of business history for that matter—by merely limiting yourself to a function or event that happens to conform to some external concept of business. Company archives reveal hard thinking and positive action about every aspect of human life and endeavor for the very good reason that at times these superficially irrelevant matters directly affect or are affected by the railroad business.

Lastly, I submit that no railway history worthy of the name can be written without going through the company records. I am aware that some of my colleagues hold an opposite view, and I am the first to admit that no railway history can or should be based on company archives alone. Nor am I naive enough to believe that company records do not need to be tested for accuracy, bias, and so on. But I do say that without them, so-called railway history is merely an impression or a guess—not a diagnosis and analysis.

Full Disclosure Good Public Relations

Naturally, the *reasons* for writing railway history differ. Broadly speaking, a company wants it done because management thinks it will improve public understanding of its motives and problems. The hostorian, on the other hand, is concerned with enlarging the area of understanding, regardless of its effect on opinion. But there is no reason why these different motives cannot lead to concerted action toward a common goal. It is largely up to the historian to "sell" the significance of his job to the businessmen with whom he must deal. He must, in other words, prove that what is good for the historian is likewise good for the railroad, and that this can be so despite a disparity of motives. I am pleased to say that more and more railways are coming to realize the importance of setting their own histories out in the open, for they are beginning to see that unless the record and significance of past performance, good and bad, is fully and fearlessly stated, there is no chance of the public's understanding the current situation.

Joint Interests Served

If our researches provide material that is practical and useful to business as a whole, to an industry, to a company, or even to a single businessman, I think it is wholly appropriate to draw attention to that fact. Perhaps our findings can be used in briefing directors or a special committee, as an aid in refinancing, employee education, or even advertising. So long as we ourselves regard these incidental findings as by-products, as chips that have inevitably scattered about as we have chopped the tree down, why not point them out for whatever they may be worth to others? Many business historians have tender feelings on this point. They are fearful that if their findings are "used" by business, they themselves will appear to be "used" and hence compromise their professional status. This, I think, is an untenable and disappointing position. The position is untenable because, if you study the performance of business, the chances are overwhelming that you will find *something* of use to business. And the position is disappointing because those that take it obviously lack the faith and courage to believe that they and their colleagues are capable of setting down the truth as they find it regardless of what some special business interest would like them to say. After all, as custodians of the truth about business, I think we have a distinct moral obligation to let business in on our findings if we (or they) think they will help make business and businessmen more useful to mankind.

RAILROAD MATERIALS HANDLING PROBLEM

By C. R. OPSAHL
Supervisor of Station Service
Northern Pacific

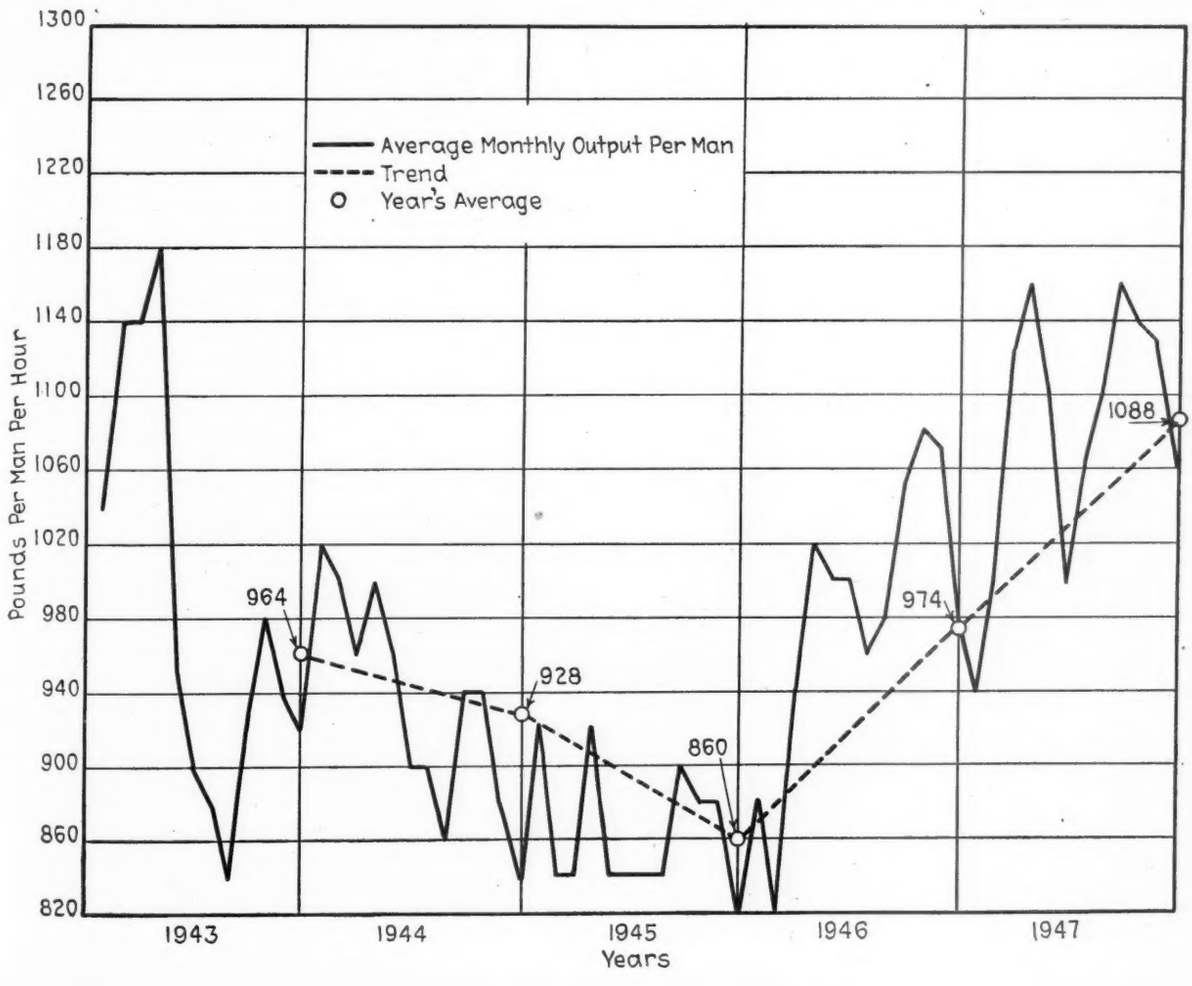
As an employee of the Northern Pacific Railway I am glad to give you the benefit of our experiences and review some of the difficulties encountered in determining the feasibility of mechanizing our operations. The manpower shortage during the war and the demands for standardized and unitized packaging by governmental agencies, were factors that promoted the rapid advancement and brought to light the potentials of mechanized material-handling equipment. The railroad industry found itself faced with a most serious freight house manpower shortage. To improve working conditions, plus the necessity of handling a greatly increased volume of tonnage, we concluded to brave the red tape procedure of acquiring mechanical equipment and embarked on a program of modernizing our freight handling operations.

To receive consideration from the WPB, we had to prove that the war effort would benefit through the approval of our requests. Incidentally, at one of our stations where we were handling thousands of tons of military freight, we instituted a WPB request for a fork lift truck in December, 1944, receiving delivery on August 27, 1946—somewhat late to contribute to the war effort! It was probably to our advantage that experimental equipment was difficult to acquire as it later developed that some of it was not suitable for our purpose. This point is stressed to indicate that we have had but a limited time to concentrate on establishing a systematized program of mechanization.

After acquiring a few pieces of equipment, it became

Based on an address at the Conference on Materials Handling at Cleveland, Ohio, on January 13.

Chart A—At this freight station installation of mechanized freight handling equipment raised output from 1945's low of 860 lb. per man per hour to 1088 lb. per man per hour



apparent that all types were not adapted to all locations. This necessitated a cautious approach, to prevent heavy investment that might not produce the desired results. It thus seemed advisable to provide a formula for conducting our experiments. That included research; consultations with equipment manufacturers, distributors and engineers; and visits to other mechanized railroads and industrial plants. We made a five-year analysis of the production at each of our larger freight houses and considered the physical characteristics of each plant and conducted actual tests of various types of equipment. We also maintained accurate production and cost charts during these tests and compared performance of the operation prior and subsequent to the installation of mechanized equipment.

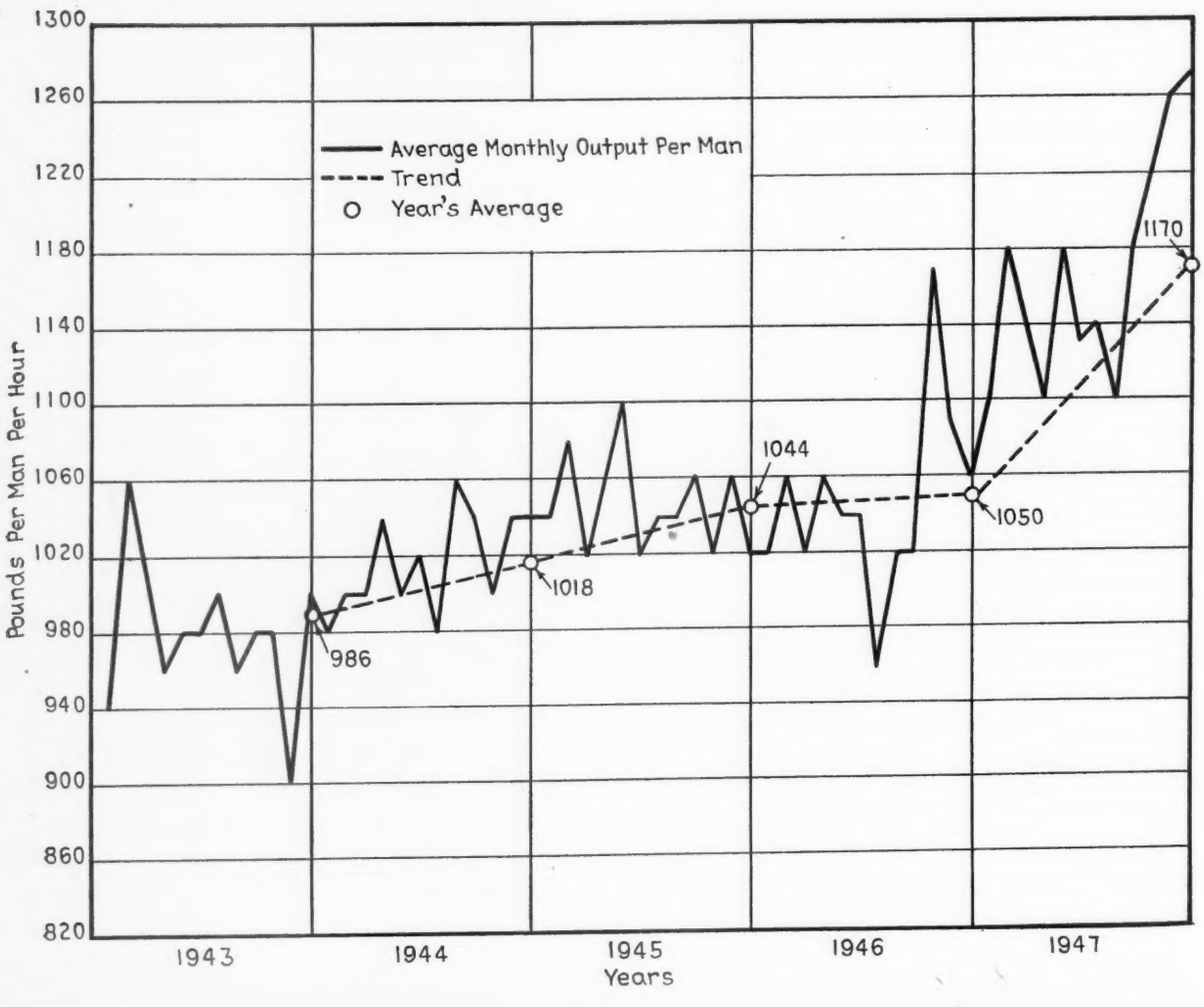
Tests Proved Effective

Though the tests were not conducted under favorable conditions, due to plant deficiencies, antipathy on the part of some employees, lack of experienced operators and suitable auxiliary equipment, we did obtain sufficient proof of their effectiveness to more than justify going ahead with the program.

We have at one of our stations a plant layout that offers about all the difficulties that can be encountered in one operation. It is located in an area that can become more than moderately warm in summer, and does become extremely cold in winter, with snow and ice contributing to the problem. The regular force is made up chiefly of men who have hand trucked freight for years, and therefore are not prone to accept revolutionary mechanized methods. The facilities were designed for modes of handling employed at the time of their installation. By reason of its being located in a congested area expansion is impossible. Every conceivable type of merchandise freight, from packages weighing a few ounces to machinery weighing several tons, moves through the narrow house for consolidation in cars that transport it to practically all the territory we serve. To protect them from the elements, perishables must be loaded into refrigerator cars, which are the bugaboo of mechanization.

At this station, our house set, as we call it, consists of 84 cars located on 5 parallel tracks. These cars must be spotted door to door and the area between doors bridged to permit entrance to each car. To provide bridge plates sufficiently strong to carry the maximum weight of power equipment under load, yet sufficiently light to permit manual handling in order

Chart B—Effect of mechanized equipment on a fairly stable production can be seen during the last three months of 1946 when output was much greater than during the previous nine months and considerably above the average for the year. 1947 figures show increase of 120 lb. per man per hour from 1946



that all cars can be closed practically simultaneously so they can move in scheduled freight trains, required months of designing and redesigning.

The planks must be wide enough to permit entrance to cars with a minimum of maneuvering, standardized to allow them to be used in both refrigerator and box cars, and provide for variations in height of car floors. After adopting one that conforms to these requirements, from a safety standpoint the weight of any additional mechanical unit is restricted to the rated capacity of the plank.

I could go on enumerating problems peculiar to this plant, but suffice it to say that because of these adversities only partial mechanization is feasible; however, through the study given to it we have been able to combine a revision of manual methods with a limited amount of mechanization to greatly increase the efficiency.

A more compact arrangement of cars was developed, and each group spotted in a section to reduce trucking distances. Through this arrangement inbound loads when made empty can be replaced with additional loads without molesting the other cars in the set and without causing any idle time to the crews while switching is in progress.

Measuring Accomplishments

We cannot determine what part mechanization has played or how much revision of methods contributed to the results, but graph A summarizes the accomplishments. The figures at the left of the chart represent the amount of freight, in pounds, handled per man per hour. Each break in the jagged line represents the average production for the month. Fluctuations in production can be attributed to several factors.

A lull in business will create havoc if adjustments in forces are not made to compensate for the decrease in tonnage. Hot weather slows the men up and cold weather requires warm-up periods, the frequency of which depend on the temperature. Therefore, the month-to-month variations are not too significant, but the average production for the year should compare favorably.

Using 1943 as a base year, the production per man was 964 pounds per hour; in 1944 it fell to 928 pounds; in 1945 to 860 pounds, a reduction of 104 pounds per man hour or 12 per cent under the base year. When figured in terms of the total man-hours consumed that year, it represented an increase in costs amounting to $25,000 at 1945 wage rates.

You will notice that the production figures for January, February and March of 1946 are in the low level of the previous year. During the month of April we put in some test equipment for a ten-day period. The use of this equipment during those ten days had the effect of showing an increase in the average production for the entire month amounting to 80 pounds per man hour. Production declined after its removal, but due to the change in methods, it did not go to its previous low level. On October 22 some of the equipment that had been tested was permanently installed and brought the production to 1080 pounds per man hour for October. Note also that the 1946 average slightly exceeded the base year. I am sure the year 1947 needs no explanation except for June and July, when vacation allowances were large and there was a decrease in business.

Chart B represents the operations at another point where weather conditions are not so variable and where the production increase is entirely due to mechanization. Production for the years 1943-44 and 45 were fairly level.

Equipment's Effect Indicated

In May, 1946, we put in one piece of power equipment that had but little effect; in the latter part of August we added another type, again without noticeable change. A test of still another type was conducted throughout the month of October. The evidence of its effectiveness is plain. These last installed machines were removed on November 7, and the production slid downward but you will note that the presence of the two other types of equipment made itself felt during December as compared to previous years. On January 22, 1947, several units of the equipment tested in October were permanently installed and the reliability of the test has been substantiated by their performance since. Then on September 17 some machines of another make were added in the attempt to coordinate the mechanization to the greatest possible extent. They too made their presence felt immediately and have continued to show improvements as operators become more proficient. Here again, the average for the year 1947 speaks for itself.

These charts show only what has been accomplished at two plants without making any changes in the physical properties. We have one entirely new plant completed, two nearing completion, and two being remodeled which will enhance the value of mechanical equipment already in service at all those points.

Practically all our major stations are mechanized to a greater or lesser degree, and we are expanding the program as rapidly as developments justify.

NEW BOOK

THE "FLOW" DIRECTORY OF MATERIAL HANDLING EQUIPMENT MACHINERY AND ACCESSORIES, edited by Harry W. Carpenter. 404 Pages. 8 in. x 11¼ in. Price $6.00. Bolivar Publishing Co., Cleveland 13, Ohio. 1948.

A useful, well edited, and well nigh indispensable book is this directory of materials handling equipment, put out by the publishers of Flow Magazine. Very commendable indeed is the effort to establish a nomenclature for the various items of equipment and accessories. So also will the prospective purchaser of equipment appreciate the product classification and trade names indexes. Manufacturers catalogs contained in this book are of varying degrees of usefulness, ranging from the very good to the type that is not too appealing or helpful. The directory of engineering and technical data is another feature which will no doubt prove useful. The publishers are not exactly right that this is the first book of its kind in the field. In 1921 Simmons-Boardman Publishing Corporation published a *Materials Handling Cyclopedia.* It is to be hoped that there will be future issues of this directory, for in this growing field changes are occurring with great rapidity.

ROLLER BEARINGS FOR FREIGHT CARS

Roller bearing application details to either new or existing freight cars described and their operating and maintenance advantages outlined*

By M. S. DOWNES†

Roller bearings have been considered as standard equipment on passenger cars and all types of main-line railroad locomotives for more than ten years. It is just recently, however, that serious consideration has been given to the application of roller bearings on main-line freight cars, although it has been the practice on many industrial railroads to use roller bearings on special car equipment for a number of years. These cars are operated around mining properties for hauling ore of various kinds. Their load capacity ranges from 50 to 90 tons, and freight-car-type trucks are used. Steel mills and other industrial plants have been using roller-bearing-equipped cars of similar size and with standard freight-car trucks for years.

There are several reasons why the application of roller bearings to main-line freight cars has lagged behind such applications on other types of railroad equipment. Perhaps the three most important reasons have been the relatively slower operating speeds of freight trains in the past, the need for standardization to facilitate car interchange, and the initial cost of roller bearing applications.

In operating freight trains on schedules closely approximating those of their passenger trains, railroads are encountering serious difficulties. Recently, the chief mechanical officer of one railroad pointed out that the railroad industry has spent large sums in the past and will spend even larger sums of money in the future for the improvement of track structure and the purchase of Diesel-electric locomotives to increase the operating speeds of both passenger and freight trains. The increase of freight-train speeds on standard types of friction bearings has resulted in serious hot-box problems. The only certain way to eliminate hot boxes is by the use of roller bearings.

Benefits from Roller Bearings

Direct financial benefits to the railroads from the use of roller bearings result from many specific advantages but these may be summed up by the simple statement, "freedom from trouble and reduced maintenance expense", as far as the journal bearings are concerned. However, there are many intangible advantages which, together with the direct advantages, make it possible for the railroads to improve their service of transporting goods.

One advantage of particular importance is the relatively lower rolling resistance of roller-bearing-equipped freight cars in summer and in winter. A number of years ago, resistance tests made on a 100-car freight train on the Pennsylvania were summarized in a report containing the following quotation: "For some reason the maximum resistance of the Timken cars was lower in winter tests than in summer tests. The constant-speed resistance was the same. The implications are that no matter how low the temperature the resistance of the Timken cars will be no higher in winter than in summer, and, therefore, with such cars there should be no reason for winter reduction in tonnage rating".

The Mechanical division of the A. A. R. created a subcommittee to work with the roller-bearing manufacturers and the railroad truck manufacturers, and this subcommittee has worked out specifications for standard roller-bearing truck side frames and axles. Its report has been submitted to the member railroads for approval. Adoption by the member railroads will reduce the interchange problems of freight car equipment.

Truck Side-Frame Design

The roller-bearing truck side frame which was recommended by the subcommittee has a jaw-type opening at each end for containing the roller-bearing journal boxes. This is similar to the old Vulcan type of side frame which has been in limited use for many years. The roller-bearing application designed by Timken consists of two separate bearings of the same bore with suitable spacers between the bearings. The journal box or housing has a circular bore and a rectangular outside section to fit in the jaw of the side frame. Suitable thrust lugs are provided, and the top of the box is crowned for proper contact with the side frame. Installations of this design have been made on a number of roads, and others will be placed in service shortly. The largest installation of this type is for one thousand 70-ton hopper cars on the Chesapeake & Ohio. These cars will be used in coal service between the mines and their car dumpers at the various lake and tide-water terminals. It is planned to operate these cars whenever possible as solid trains so that a maximum benefit may be derived from the low starting resistance and trouble-free operation furnished by the roller-bearing-equipped journals.

Timken has also developed a roller-bearing freight-car application which may be applied to existing cars equipped with truck side frames of the integral-box type predominating on the 1,750,000 freight cars now in service. This roller-bearing application is fitted on axles which may be machined from existing friction-bearing axles. The assembled bearing and box is

* Presented at the A. S. M. E. annual meeting, Atlantic City, N. J., December 4, 1947.

† Mr. Downes is assistant general manager, Railway Division, The Timken Roller Bearing Company.

applied to the existing side frames after removal of the dust-guard ribs at the rear of the friction-bearing box. The dust-guard ribs on the friction-bearing box may be removed quickly and economically with an acetylene torch followed by dressing with a hand grinder. This type application also consists of two single bearings, but with the inner bearing larger in bore and outside diameter than the outer bearing. The outer races are backed against shoulders in the bore of the box and a simple spacer is used between the inner races. The roller-bearing box is so designed that its outside contour has assembly clearance at the internal sides and bottom of the integral box on the standard side frame. The top of the roller bearing box is crowned to the same dimensions as the standard friction-bearing wedge.

This installation can be made with very little increase in the dead weight of the car. On 50-ton cars, the increase in weight is calculated to be 112 lb. per car, and for 70-ton cars the increase is calculated to be only 52 lb. per car. Several installations of this new design are in the process of application for both existing and new cars. The largest installation is on 800 existing livestock cars for the Union Pacific. The program of that road originated with 300 cars allotted for an expedited livestock service between Salt Lake City and Los Angeles. This run, which previously required from 58 to 60 hours, has been reduced to less than 30 hours, and a stop-over for feeding and watering the livestock at Las Vegas, Nev., has been eliminated.

Demands for livestock shippers for this expedited service has resulted in a repeat order for an additional 500 cars to extend this service to other points on the system.

This type of application, while designed primarily for the changeover of existing cars, is also adaptable for new cars. If it is used under new cars the side frames can be cast without the dust-guard retaining ribs which will eliminate the necessity of cutting them out with a torch.

Production Aspects

Considerable progress has been made in reducing the initial cost of roller-bearing applications to freight cars. This has been accomplished through a lower cost of fabrication for the boxes. Timken is now producing freight-car journal-box housings as weldments, the housings being die forged in two halves and welded together. Housings made by this method weigh less and can be produced to closer tolerances, thereby eliminating machining at some points. Other application parts are also made as die forgings and still others as stampings. The large volume inherent in the freight-car field warrants special machinery for machining boxes and parts so that machining costs are greatly reduced.

The freight-car builders are affected by the roller-bearing application because of the machining of axles and the assembly of the roller bearing and box on the axle. This work is inherently different than for the friction bearing and methods of handling it efficiently and at low cost must be worked out.

1947 NET INCOME TOTALED $480,000,000

As a result of a higher level of freight traffic hauled at somewhat higher rates, railroad net income totaled $480,000,000 in 1947, as compared with $293,000,000 in the "abnormally low earning year" of 1946, William T. Faricy, president of the Association of American Railroads, said February 9 in announcing final earnings figures for the year compiled by the Bureau of Railway Economics of the A. A. R. from reports filed by all Class I carriers.

"The higher railroad revenues last year were offset to a large extent by higher wages, higher prices for fuel and supplies, and a greater amount paid in taxes," Mr. Faricy stated. "The result was a net railway operating income, before interest and rentals, of $780,714,427, which was at the rate of return of 3.46 per cent on net property investment, after depreciation. This compares with a net railway operating income in 1946 of $619,828,527, or a return of 2.74 per cent.

"Out of this net railway operating income, railroads must meet their bond interest, rentals and other fixed charges. The net income remaining reflects both the larger earnings of 1947 and the reductions in fixed charges which have been achieved by railroads in recent years."

According to Mr. Faricy's announcement, the 1947 gross amounted to $8,684,694,310, compared with $7,628,401,894 in 1946, an increase of 13.8 per cent. Operating expenses in 1947 amounted to $6,797,062,484, compared with $6,358,191,106 in 1946, an increase of 6.9 per cent. Thirty Class I roads failed to earn interest and rentals in 1947, of which 14 were in the Eastern district, five in the Southern region and 11 in the Western district.

Class I roads in the Eastern district in 1947 had an

CLASS I RAILROADS—UNITED STATES

Month of December

	1947	1946
Total operating revenues	$ 807,428,182	$ 637,653,600
Total operating expenses	631,150,228	549,833,199
Operating ratio—per cent	78.17	86.23
Taxes	80,843,092	cr. 28,772,759
Net railway operating income (Earnings before charges)	80,022,688	103,754,010
Net income, after charges (estimated)	58,000,000	86,000,000

Twelve Months Ended December 31, 1947

Total operating revenues	$8,684,694,310	$7,628,401,894
Total operating expenses	6,797,062,484	6,358,191,106
Operating ratio—per cent	78.26	83.35
Taxes	936,373,637	498,395,456
Net railway operating income (Earnings before charges)	780,714,427	619,828,527
Net income, after charges (estimated)	480,000,000	293,000,000

estimated net income of $161,000,000, compared with $59,000,000 in 1946. Those same roads had a net railway operating income of $304,427,030 in 1947, compared with $209,624,384 in 1946.

Gross in the Eastern district in 1947 totaled $3,955,817,342, an increase of 16.3 per cent compared with 1946, while operating expenses totaled $3,200,178,751, an increase of 9.4 per cent.

Class I roads in the Southern region in 1947 had an estimated net income of $55,000,000, compared with $36,000,000 in 1946. Those same roads had a net railway operating income of $103,771,466 in 1947, compared with $93,456,255 in 1946.

Gross in the Southern region in 1947 totaled $1,194,770,209, an increase of 9.4 per cent compared with 1946, while operating expenses totaled $949,416,273, an increase of 4.5 per cent.

Class I roads in the Western district in 1947 had an estimated net income of $264,000,000, compared with $198,000,000 in 1946. Those same roads had a net railway operating income of $372,515,931 in 1947, compared with $316,747,888 in 1946.

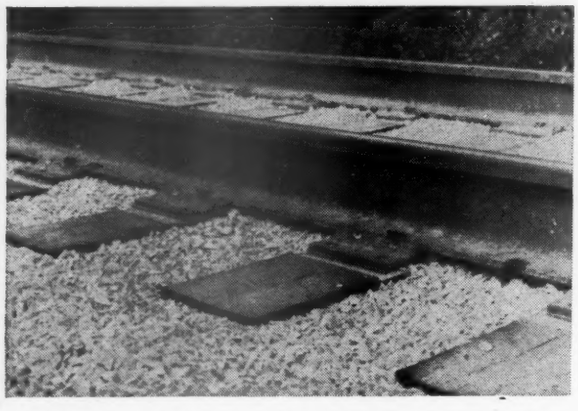
Gross in the Western district in the 1947 totaled $3,534,106,759, an increase of 12.8 per cent compared with 1946, while operating expenses totaled $2,647,467,460, an increase of 4.9 per cent.

FABCO TIE PADS

The Fabreeka Products Company, Boston, Mass., has introduced a tie pad of composition material for insertion between the tie plates and the ties in open track as a means of protecting the crossties from tie-plate cutting and abrasion. Already being tested under service conditions on a number of roads, this device, known as the Fabco tie pad, has been specially developed by the manufacturer for application on a large scale at nominal cost as an answer to the growing problem of mechanical damage to crossties in the tie-plate areas.

Fabco tie pads should not be confused with Fabreeka, a product manufactured by the same company, which has been in use for about 14 years at points of unusually severe service in track, such as under crossings and crossovers, on bridges and turntables and at other locations where heavy impact shocks are encountered and where the pad material is used not only to reduce mechanical wear of ties but also the wear of maganese points and rail ends, and to absorb vibration and severe impacts.

The difference between the two products arises in the method of manufacture. Fabreeka is made of multiple layers of a specially-designed, hard-woven cotton duck, thoroughly impregnated with rubber and cured under pressure and heat. The layers of duck are approximately 1/64 in. thick so that, for a pad 11/32 in. thick, there are 21 plies of duck. This construction is said to give Fabreeka unusual strength and certain outstanding qualities. For instance, the breakdown limit under compression of 21-ply Fabreeka is reported to be in the neighborhood of 14,000 lb. per sq. in.



An installation of Fabco tie pads applied on new oak ties

Fabco tie pads are also manufactured from cotton duck and rubber, but the material used consists of the trim of Fabreeka or similar types of material before it is cured under heat and pressure. This trim or scrap is ground up and then cured in molds under heat and pressure to the desired thickness and size. It is apparent, therefore, that the contents of Fabco tie pads are the same as Fabreeka, but that the structure, instead of being laminated, is a mixture. For this reason the breakdown limit of Fabco is about half that of Fabreeka but is still considered more than ample for service under tie plates. Fabco, moreover, is said to have the same resistance as Fabreeka to the elements and to withstand successfully extremes of temperature, as well as the effects of moisture, brine, mildew, sand, etc.

Fabco tie pads will be made in a single thickness, 1/4 in., and will be available in various sizes to meet present-day A.R.E.A. standards for tie plates. The pads are now available in sizes of 7¾ in. by 12 in., 7¾ in. by 13 in., and 7¾ in. by 14 in., and other sizes can be made on special order. The pads will be punched for spikes to meet the requirements of individual roads. The spike holes will be round and will have a smaller area than the cross section of the spike. Since the Fabco material is resilient, a tight fit of the pad around the spikes will thus be assured, thereby helping to prevent the seepage of water under the pad and into the tie.

The cost of Fabco tie pads is appreciably lower than Fabreeka of similar size and thickness, and is considered sufficiently low by the manufacturer to warrant their application in open track on a large scale. It is expected that regular Fabreeka material will still be used at points of unusually severe service, such as those mentioned previously.

The material from which Fabco tie pads are manufactured has been under development for over seven years and has not only been exhaustively tested in the laboratory but also in the field. On the basis of tests and experience with Fabreeka in track it is expected that Fabco tie pads will possess almost indefinite life in open track; in fact, that they will last as long or longer than ties or rail.

GENERAL NEWS

Employees Present Rules Case to Emergency Board

Unions hint fresh demands follow settlement of current dispute

The three "holdout" brotherhoods began presentation of their argument before the President's emergency board on February 3, advancing first those rule proposals designed to wipe out what they termed "obsolete rates" and differentials "which we regard as inequitable," before presenting their 30 per cent wage increase proposal, which is intended for application on top of any rates revised upward by the rule changes. The issues before the board are summarized on page 51 in this week's *Railway Age*.

At one point during the testimony, C. D. O'Brien, counsel for the employees, referred to the reduction in the number of enginemen required when Diesel locomotives were operated as units, eliminating the need for doubleheading and pusher service. Jude Bushnell, one of the three board members, asked if this question would be the union's next case and was told that there might be "a good deal more truth in that than may be apparent right now." This was the third statement in the employees' testimony which indicated that the eventual settlement of the current case would by no means end the unions' efforts to push up operating costs further.

First of the rule changes to be discussed was that which would abolish western differentials—which, allegedly, discriminate against engineers and firemen on mallet-type locomotives. Counsel for the carriers cross-examined witnesses J. P. Shields, first assistant grand chief engineer, Brotherhood of Locomotive Engineers, and C. H. Keenan, vice-president, Brotherhood of Locomotive Firemen & Enginemen, and developed that it was the intention of the employees to increase western mallet rates where they are lower than the eastern rates, but to make no downward revision in instances where the western rates are higher than those in other territories. It was also developed that this proposal applies to unfavorable differentials for firemen on oil-burning locomotives, which fact counsel stated had not been brought out during conference negotiations. Mr. Keenan told the board that there was no justification for lower rates on oil-burning engines in the west and cited an instance where an oil-burning engine on a southeastern line performed almost identical service to a similar engine on a western line, although a lower rate accrued to the fireman in the second instance. He also cited a case where a western train is hauled by a Diesel-electric locomotive (which carries the same rate as a coal-burning engine) on one trip, and by an oil-burning engine on a subsequent trip. Although the same service is performed by the fireman, he would suffer from the unfavorable differential in the latter instance.

Seek More Pay for Motormen—W. R. Hamm, general chairman, B. L. E., Harrisburg, Pa., testified on the organizations' proposal that engineer-motormen on multiple-unit electric cars be paid on a graduated scale in accordance with the number of motorized units in the train. Mr. Hamm asserted that the existing rate is no longer commensurate with the duties and responsibilities imposed upon these men—who work without firemen or helpers—because of the increased tractive power of these units and the increased length of such trains made possible thereby. He was asked if this proposal would apply to motormen on the Illinois Central who already receive rates higher than those proposed. Mr. O'Brien stated that "we assume they are not so stupid on the local property as to have that committee accept this rule and reject their existing higher rates." Mr. Hamm stated that if a motorman served on several trains of different lengths during a day's work, his rate would be that applying to the run where he hauled the most energized cars. In the course of his testimony, Mr. Hamm intimated that the brotherhoods intended, at a later date, to demand that multiple-unit cars pulling more than one trailer car be classified as locomotives.

A. W. Telley, general chairman, B. L. F. & E., Hammond, Ind., testified with respect to the employees' proposal to raise the table of rates graded by weights of locomotives on driving wheels so as to begin with the classification "300,000 lb. or less" instead of the present "80,000 lb. or less" and to eliminate the table applying to yard engineers and firemen, including them in the rate table which covers local freight crews. Mr. Telley explained that this proposal was designed to eliminate alleged inequities to men assigned to lighter engines, and particularly to yard crews who, he stated, are not receiving pay commensurate with their "skill, responsibility, effort and training.' Describing the duties of the engineer in switching service, the witness said that it involved constant attention to signals and simultaneous manipulation of levers, throttles and brakes, vigilance over mechanical appurtenances, and "the extension of the engineer's head and shoulders out of the cab window regardless of weather conditions."

Mr. Telley stated that some railroads have been installing radios on switching locomotives "for the sole purpose of increasing efficiency," and that the "duties, responsibility and productivity of the yard engineer have been immeasurably increased" thereby. Mr. Telley complained that yard workers have limited opportunities to receive adequate compensation and do not enjoy the privilege of earning their basic pay in less than eight hours as do their brothers in road service. He claimed that the higher starting point on the weight-on-drivers table is needed to protect the earnings of employees assigned to light engines which, by application of modern appliances, have been made more powerful without increasing the weight on the drivers, and to Diesels which weigh less on drivers than steam locomotives comparable in power. In cross-examination, counsel for the carriers developed that the new scale of pay for yardmen would result in higher rates than those paid road men in through freight service, reversing the rate relation of these two classes for the first time in about 36 years.

Brook Jones, general chairman, B. L. F. & E., Minneapolis, Minn., took the stand in defense of the proposal which would grant inside hostlers the same basic rate of pay as local freight firemen on engines weighing 250,000 and not more than 300,000 lb. on drivers, at the same time maintaining the 68 cent differential for outside hostlers and 61 cents for outside hostler helpers. Mr. Jones told the board that the "hazards surrounding the work of hostlers are exceedingly great" and that their training and skill entitle them to greater compensation.

Charles E. McDaniels, vice-president, Switchmen's Union of North America, Salt Lake City, Utah, testified on the employees' proposal that yard switchtenders be paid yard brakemen's rate of pay. Mr. McDaniels explained that there is currently a $1.55 differential between the two basic daily rates, but that he considered the switchtenders' job comparable to that of the yard brakemen "since a greater responsibility is inherent in the one (switchtenders) while the other requires greater physical effort and involves greater

hazards." He contended that switch-tenders are presently compelled to work a 7-day week in order to meet obligations, and that "at the low, miserable rate of $8.47 he can't even buy himself a necktie." In cross-examination, Mr. McDaniels told counsel that he did not know how many roads his union held contracts for, how many switch-

(*Continued on page 93*)

Shows Average Freight Loads, Short-Line Miles

I. C. C. bureau presents additional data compiled in waybill studies

Additional tabulations compiled by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission from data on waybills submitted by the railroads show, on a sample basis for selected commodity classes, the average load per car in tons and the average length of haul (short-line) in miles per car and in miles per ton. The tabulations, which are based on data taken from 1947 waybills received at the bureau by the end of September, have been issued as Statement No. 482.

As the statement pointed out, most of the average (short-line) hauls per car approximate the average per ton; so the mileage used herein will be confined to the per-car figures. The whole range of average short-line hauls was from 8 miles for commodity class No. 303, Anthracite Coal to Breakers and Washeries, to 2,299 miles for commodity class No. 081, Lettuce. Next to the 8 miles on anthracite to breakers and washeries, the shortest average hauls were 86 miles for both gravel and sand, N.O.S. (No. 327), and fuel wood (No. 405). The average loads ranged from 6.9 tons for passenger automobiles (No. 613) to 65.1 tons for fluxing stone and raw dolomite (No. 331).

The range of average short-line distances in the commodity classes taken from the Products of Agriculture group was from 170 miles for soybeans (No. 043) to the 2,299 miles for lettuce as noted above. Loads in this group ranged from 12.3 tons for lettuce to 51.7 tons for wheat (No. 001). In the Animals and Products group, the range of average short-line hauls was from 239 miles for swine moving in single-deck cars (No. 211) to 1,072 miles for eggs (No. 227). Average loads ranged from 8.6 tons for swine moving in single-deck cars to 31.2 tons for animals and products, N.O.S. (No. 299).

The average of 8 miles for anthracite coal moving to breakers and washeries was the low in the Products of Mines group, the high being 523 miles for clay and bentonite (No. 323). The range of average loads in this group was from 34.9 tons for coke (No. 307) to the 65.1 tons for fluxing stone and raw dolomite.

The average short-line hauls shown for commodities in the Products of Forests group ranged from the 86 miles for fuel wood to 1,107 miles for veneer, plywood and built-up wood (No. 415). Average loads in this group ranged from 25.3 tons for products of forests, N.O.S. (No. 499) to 39.6 tons for pulpwood (No. 409).

In the Manufactures and Miscellaneous group the range of average short-line mileages was from 122 miles for commodities of class No. 577, Iron and Steel: Bar, Rod and Slab, to 1,957 miles for wine (No. 747). Here the average loads ranged from the 6.9 tons for passenger automobiles to 58 tons for class No. 575, Iron and Steel: Billet, Bloom and Ingot.

Dismiss 34 Defendants In Lincoln, Neb., Suit

Hold four-day hearing in anti-trust action against railroads

A number of railroad presidents were among 34 individuals dismissed by the district court at Lincoln, Neb., on February 3, as defendants in the federal government's anti-trust suit against 47 western railroads, two associations and many railroad and banking officials. These individuals were thereby freed of charges that they conspired to restrain trade and commerce in transportation and to monopolize transportation by allegedly fixing rates and restricting services and improvements. The two associations involved in the suit are the Association of American Railroads and the Western Association of Railway Executives.

Featuring a four-day hearing was the Department of Justice's action on February 5, asking that the court include W. Averell Harriman, now U. S. Secretary of Commerce, as a "co-conspirator" in the case. On the following day, however, the department reversed its stand, declaring that it would not name Mr. Harriman as such inasmuch as he resigned in 1941—three years prior to the filing of the anti-trust suit in August, 1944—as a member of the committee of directors of the so-called "Commissioner Plan." Mr. Harriman was chairman of the board of directors of the Union Pacific at the time the Plan became effective.

During the course of oral arguments, counsel for the carriers charged the government with attempting to expand the scope of the suit to include other than the western territory. In this connection, the government was successful in bringing the Southeastern Presidents' Conference into the case as defendants. Douglas F. Smith, counsel for the western carriers, said that many of the government's 800 exhibits were "those offered in the Georgia case to show that the state of Georgia was being discriminated against by the eastern and southern railroads." These exhibits, he said, are "irrelevant" and "having nothing to do with the western district or any charge relating to the western district."

In arguing the motion for dismissal of government evidence, Mr. Smith stated: "It is our purpose to defend the operation of the rate bureaus and W. A. R. E. as required by law, as utterly necessary to railroad operation, and as being productive and not in restraint of trade and commerce . . . and to defend all of the many efforts made by the western roads to cooperate and to coordinate their services in an effort to avoid competitive wastes, and to create and maintain the national system of transportation which the Transportation Act of 1940 requires."

Substantiating Mr. Smith's argument was R. V. Fletcher, special counsel for the Association of American Railroads, who declared that "competitive wastes" once forced many railroads into bankruptcy. He pointed to statements of the Interstate Commerce Commission to the effect that "competitive waste" and "rate wars" must be avoided, and declared further that "it is the settled policy of the country that rate wars are bad. Taking reasonable steps to avoid such wars is not in restraint of trade."

The list of dismissed defendants included 16 railroad presidents and the following board chairman of three railroads: R. C. Vaughan, Canadian National; Norman B. Pitcairn, Wabash; and John L. Lancaster, Texas & Pacific. The railroad heads freed of charges were: William N. Deramus, Kansas City Southern; John D. Farrington, Chicago, Rock Island & Pacific; Francis J. Gavin, Great Northern; Fred G. Gurley, Atchison, Topeka & Santa Fe; Charles Elsey, Western Pacific; H. C. Grout, Minneapolis, St. Paul & Sault Ste. Marie; Edward B. Greene, Lake Superior & Ishpeming; Clive T. Jaffray, Duluth, South Shore & Atlantic; Arthur W. Lefeber, Midland Valley; Homer E. McGee, Green Bay & Western; Edgar S. McPherson, Spokane International; R. W. Morrison, Texas-Mexican; Lucian C. Sprague, Minneapolis & St. Louis; E. T. Stannard, Nevada Northern; A. P. Titus, Illinois Terminal; and P. H. Van Hoven, Duluth, Missabe & Iron Range. Also dismissed as defendants were O. M. Stevens, president of the American Refrigerator Transit Company; William M. Jeffers, retired president of the Union Pacific, and several other railroad presidents who have retired since the filing of the suit in 1944.

N. Y. C. Gets New Budd-built Observation Cars for "Pacemaker"

The New York Central inaugurated its new all-coach "Pacemaker" passenger service between New York and Chicago on February 11 with simultaneous eastbound and westbound runs. Receipt of two new observation cars enabled the New York Central to send the all-stainless steel train on its twin runs as the road's first new postwar train.

All cars on the "Pacemaker" were built by the Budd Company.

Each of the new "Pacemakers" consists of a 4,000-hp. Diesel-electric locomotive, a baggage-dormitory car, a kitchen-lounge car and an accompanying full-length dining car seating 64 persons, 56-passenger coaches and an observation car. The new observation cars have three sections: a club section at the forward end, with seating space for 22 passengers; a lounge section in the middle, accommodating 21 passengers; and a rear observation section with room for 10 passengers. In the observation cars are such features as plexiglass partitions, fluorescent lighting combining overhead units with cove lighting along the outside walls, radio broadcast reception, and writing desks and card tables. There are also sofas and club chairs.

1948 Airport Program

The 1948 National Airport Plan listing 4,835 locations "at which the existing and anticipated demands for air service and local requirements indicate that airports should be constructed or developed during the next three years" was announced on February 11 by T. P. Wright, administrator of the Civil Aeronautics Administration.

The plan was prepared in accordance with the provisions of the Federal Airport Act of 1946 which requires the administrator to revise and prepare annually a forecast of projects considered "necessary to provide a system of public airports adequate to anticipate and meet the needs of civil aeronautics." Of the 4,835 locations listed in the 1948 plan, 2,745 are for completely new airports while 2,090 are existing airports listed as requiring additional improvement or development. Estimated cost of construction and development totals $1,048,500,000 of which $469,700,000 would be in federal funds and $578,800,000 in funds provided by local sponsors.

The plan lists 502 Class IV or larger airports most of which are in existence, 17 of them would be new. Of the 575 Class III airports listed, 155 are for new construction while 537 of the 1,109 Class II fields listed would be new construction. The Class I projects would include 1,752 new fields out of 2,321. In addition, 291 seaplane bases are included in the plan, of which 264 would be new, and 20 new heliports out of 37 contained in the proposal.

Oral Argument in Rail-Barge Joint Rate Cases to Be Held March 10

The Interstate Commerce Commission will hear oral argument at its Washington, D. C., headquarters March 10 in the long-pending No. 26712 proceeding and 10 related cases, all involving the general question of rail and barge joint rates. As reported in *Railway Age* of March 23, 1946, page 650, Examiner Howard Hosmer has recommended in a proposed report that the commission prescribe differentials to be deducted from first-class all rail rates between selected key points in determining the corresponding reasonable rail-barge, barge-rail or rail-barge-rail first class rates. Other class and column rates would be determined on a percentage basis. In general, the examiner's proposals follow those sponsored by the government-owned Inland Waterways Corporation.

Northwest Shippers Board Marks Silver Anniversary

The completion of 25 years' service was commemorated by the Northwest Shippers Advisory Board at its 83rd regular meeting in Minneapolis, Minn., on January 29. Principal speaker was Warren C. Kendall, chairman of the Car Service Division of the Association of American Railroads, who spoke on "A Kaleidoscopic View of Rail Transportation." Mr. Kendall presented a resume of railroad performance in 1947 and discussed last year's car shortages. He predicted that the situation will be better during 1948. A plea for more through overhead cars as a means of improving less carload freight service was made by H. L. Bateman, chairman of the board's L.C.L. Transportation Committee, who contended that the transit time on this type of freight is "excessive" and that "repeated handlings are not only costly to carriers but increase the possibility of transit damages."

Passenger-Car Situation Described by Faricy

Delayed delivery of new passenger equipment is not only depriving the public of better railroad service, but is also costing the railroads heavily in increased prices of cars, William T. Faricy, president of the Association of American Railroads, said in a February 11 address at the silver anniversary banquet of the Birmingham (Ala.) Traffic and Transportation Club at the Tutwiler Hotel in that city. Mr. Faricy stated that the railroads and the carbuilders are not to blame for this situation.

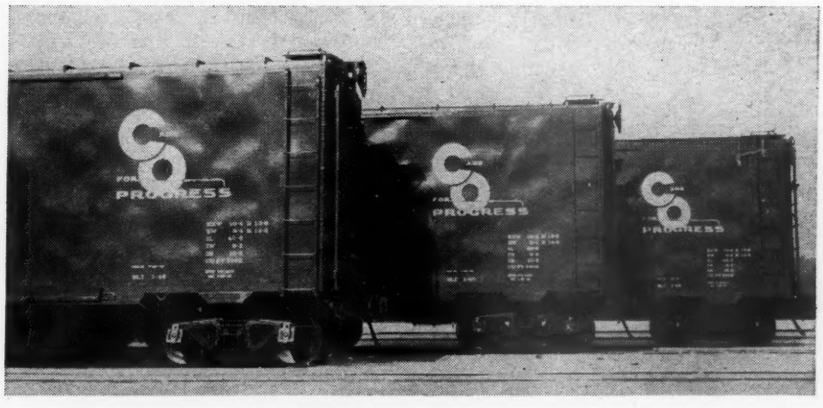
Since it became possible to resume the passenger carbuilding that was halted by the war, he said, the railroads have ordered more than 4,000 new passenger-train cars. The delays in the delivery of these cars, he explained, have been due to a combination of causes of the sort which every business has experienced since the close of the war.

"However," Mr. Faricy stated, "these delays have deprived the public of the benefits and conveniences of improved cars of every type, and have lessened the ability of the railroads to meet satisfactorily the wishes of the public whom they serve. The delays have also added to the difficulties of the railroads through the increased prices of cars, since with practically every month that goes by, it has become more and more expensive to complete a unit of equipment."

Pointing out that most of the contracts for new passenger equipment contain escalator clauses, which provide for higher prices when the cars are delivered if production costs have increased in the meantime, the A.A.R. president continued: "Already the operation of these escalator clauses had added considerably to the cost of equipment ordered two and three years ago and not yet delivered. If the original delivery schedules had been met, the escalator clauses would still have added something to the contract prices, but not nearly so much as the increases the railroads are encountering as the delays continue."

Although assurance has been given that sufficient steel will be allotted for the construction of 10,000 new freight cars a month, Mr. Faricy said, no such promise has been made concerning passenger cars, and at the present rate of production, it will take about three years to deliver all the new passenger cars now on order.

"The railroad industry," he added,



New box cars, displaying the symbol "C & O FOR PROGRESS," are rolling into Chesapeake & Ohio yards at New Buffalo, Mich., at the rate of 27 per day. Part of an order for 1,000 5-ton cars built by Pullman Standard Car Manufacturing Company, they are the first large lot delivered to the railway since June, 1941. In addition to this equipment, the C. & O. anticipates delivery of 6,500 other new freight cars this year

"will simply have to scramble for the steel it can get for new passenger equipment, and keep fighting for it. New cars will be produced as fast as the steel can be made available for them."

Mr. Faricy declared that both in their improvement plans and in their operations, the railroads face the obstacle of rising costs. However, he stated, they have faith that "the people and the public authorities who act for them will give the railroads an opportunity to increase their revenues to meet these mounting costs."

"In that faith," he concluded, "the railroads are going ahead with their plans for improvement—their orders for more than 1,200 new locomotives this year, for nearly 120,000 new freight cars, for all the passenger cars that can be built, for all the rail which can be rolled, for all the signals and communications equipment which can be installed, and for improvements in every part of the vast and complex business of railroading. In that faith, the railroads dedicate themselves, in peace and war, to a service of country which will carry them, and the great nation of which they are so vital a part, to new heights of accomplishment."

Monon Modernizes Chicago-Louisville Service Trains

The Chicago, Indianapolis & Louisville announced that modern streamlined coach equipment will be placed in service on its possenger trains between Chicago and Louisville, Ky., effective February 15. At the same time, the schedules of the day trains will be adjusted so that No. 5 will leave Chicago at 1:35 p.m., 5 hr. 5 min. later than at present, and arrive at Louisville at 9:25 p.m., 3 hr. 35 min. later than at present. Northbound, No. 6 will leave Louisville at 12:01 p.m., 4 hr. 1 min. later than at present, and arrive at Chicago at 7:50 p.m., 3 hr. 35 min. later than at present. Connecting bus service to French Lick Springs, Ind., will be adjusted accordingly. Streamlined dining-parlor-observation cars will replace the existing equipment in about mid-April. The new Monon passenger equipment is described in *Railway Age* for January 10, page 24.

Says Senate Will Reject St. Lawrence Agreement

The joint resolution to approve the United States-Canada agreement for construction of the St. Lawrence seaway and power project will be defeated in the Senate, Senator Connally of Texas said in a February 9 statement. Mr. Connally, the ranking Democratic member of the Senate committee on foreign relations, was one of four members of that committee who filed a minority report when the committee majority reported the resolution (S.J.Res.111) favorably to the Senate last month.

The Texan's February 9 statement commented on the Senate's unanimous-consent agreement to vote on the resolution February 27. As noted in the *Railway Age* of February 7, page 85, that agreement was entered after the debate had been under way for more than a week. "In reality, [the resolution] has already been defeated," Senator Connally said. "The movement of the opponents to postpone a vote until February 27 is an admission of defeat."

Meanwhile, Senator Taft of Ohio, who is chairman of the Senate Republican Policy Committee, announced in the Senate on February 5 that he would vote against the resolution "at this time." The remainder of his statement was in part as follows:

"So long as this country is involved in the expenditure of billions of dollars for armed forces, more likely to increase than decrease, so long as it is involved in costly aid to other countries to check the growth of communism in the world, so long as we have the tremendous obligations to our veterans of two world wars, I do not think the federal government should undertake any large increase in its public-works projects, unless the case in favor of proceeding is clear beyond question. Already the effort to do too many things at one time is causing hardship and inflation.

"While I think the power development of the St. Lawrence is important and desirable, the greater part of the expense relates to navigation. The navigation project seems to me of questionable economic value at this time."

Rate Increases Affect Living Costs But Little—Hungerford

In the "vast majority of cases, and on the average," increases in freight rates do not affect retail prices in any "substantial" way, Clark Hungerford, president of the St. Louis-San Francisco, told the members of the Traffic Club of Cleveland at a meeting in that city on February 5. For example, he said, the cost of railroad transportation for a man's suit of clothes is so small that it amounts to "less than the cost of the suit's buttons."

"The railroads want to keep their rates at the lowest possible level," the Frisco president stated. "That is good business, because low rates attract traffic. Adequate revenues can produce rate reductions, because they encourage investment in railroad plant and equipment. This in turn produces efficiency, and with it lower operating costs, which are passed on to the public in lower rates. The key, then, to the future of our railroads as privately-owned, tax-paying and self-supporting business is earnings—the sort of earnings that will warrant further investment in improvements."

Declaring that the railroads need six per cent return on their investment in order to continue under private ownership, Mr. Hungerford asserted that "as long as there is a possibility of financial disaster for the railroads, just so long will there be the possibility of the government taking them over." He added, however, that the experience of two wars taught the American people that "it is far better to have the railroads that are privately managed and operated than it is to have them owned and run by the government."

House Passes I. C. C. and Roads Appropriation Bill

The House on February 4 passed and sent to the Senate the Independent Offices Appropriation Bill for the fiscal year ending June 30, 1949, which carries $10,819,317 for the Interstate Commerce Commission and $459,588,854 for the Public Roads Administration. These are the amounts recommended by the House committee on appropriations, further details having been reported in the *Railway Age* of February 7, page 65, where the committee's report was noted.

Frisco Will Order Four Diesels

Orders "are being placed" by the St. Louis-San Francisco for four Diesel-electric freight locomotives, at a cost of $1,734,720, Clark Hungerford, president, has announced. The authority for the purchase of this and other equipment was reported in the *Railway Age* of September 6, 1947. Mr. Hungerford also stated that the Frisco will order $77,300 worth of replacement parts for Diesels on the St. Louis, Mo.-Pensacola, Fla., run and spend $70,000 for constructing additional sidings on the River division between St. Louis and Memphis, Tenn. The new Diesels will be placed on a 28-hr. through-freight run between St. Louis, Memphis and Pensacola, according to the Frisco president.

U. P. to Begin Construction of $3,500,000 Classification Yard

Construction by the Union Pacific of a $3,500,000 gravity-type classification yard at North Platte, Neb., will begin this month, George F. Ashby, president, announced last week. The yard—to be five miles long—will be similar to the road's yard recently completed at Pocatello, Idaho (See *Railway Age* of January 10, page 30). The new layout will involve the laying of 31,085 ft. of new main line track and approximately 51 mi. of additional yard trackage and the construction of various buildings. Work on the project is expected to be completed early this summer.

The 4,200-car yard will lie across North Platte's city limits at the west end of the present yard, with the incline toward the east. The complete installation will consist of a 10-track, 1,200-car receiving yard; the crest; a 40-track, 1,400-car classification yard, and a 16-track, 1,600-car departure yard. Cars will be routed by gravity from the crest onto classification tracks by 39 electric

switches controlled from four towers. The speed of these cars will be regulated by a series of nine electro-pneumatic car retarders, also operated from the control towers.

An under-track inspection pit will be installed at the approach to the incline, from which cars in need of repair can be detected. Cars requiring repair will be switched onto the repair track facilities, consisting of five concrete repair platforms 8,000 ft. long.

The following buildings will be constructed at the yard, of brick and concrete, with asbestos shingle roofs: A 38-ft. by 122-ft. general yardmaster's office, with a multi-windowed tower; a 100-ft. by 24-ft. locker room for carmen; 38-ft. by 24-ft. locker room for switchmen; a 64-ft. by 24-ft. shop building; four 16-ft. by 10-ft. control towers; and garage and compressor buildings.

Communications facilities will include printing telegraph service, radio and an inter-communication system. The printing telegraph service will link all towers, the general yardmaster's office and the Pacific Fruit Express office. There will be 103 inter-communication loud speakers—the majority of which will be spotted at points along the yard tracks —and 26 large paging speakers. Two very-high-frequency radio stations will be installed, and switch engines will be equipped with two-way radio for communications with both stations.

Supreme Court Seems to Consider Air Transport Something Special

The United States Supreme Court on February 9 indicated that it considers the difference between air and surface transportation to be such that legal precedents established with respect to railroads and water carriers may be inapplicable to air transport. The court's expression was embodied in a 5-to-4 opinion which ruled that there can be no judicial review of the President's actions under section 801 of the Civil Aeronautics Act which provides that a Civil Aeronautics Board order granting an international-route certificate to an air carrier must have Presidential approval.

With the issue thus narrowed, C. A. B.'s restrictive policy with respect to the entry into air transport of surface carriers was not considered by the Court. Nevertheless, the case involved the appeal of a surface carrier, Waterman Steamship Corporation, which was an unsuccessful applicant for Caribbean routes granted by the Presidentially-approved C. A. B. order to Chicago & Southern Air Lines. And the court's majority opinion, delivered by Justice Jackson, referred to Waterman's reliance on precedent-setting cases in the marine and rail fields.

"We find," Justice Jackson said, "no indication that the Congress either entertained or fostered the narrow concept that air-borne commerce is a mere outgrowth or over-growth of surface-bound transport. Of course, air transportation, water transportation, rail transportation, and motor transportation all have a kinship in that all forms of transportation and their common features of public carriage for hire may be amenable to kindred regulations. But these resemblances must not blind us to the fact that legally, as well as literally, air commerce, whether at home or abroad, soared into a different realm than any that had gone before. . . . However useful parallels with older forms of transit may be in adjudicating private rights, we see no reason why the efforts of the Congress to foster and regulate development of a revolutionary commerce that operates in three dimensions should be judicially circumscribed with analogies taken over from two-dimensional transit."

Would Extend Road Program Two Years at $500 Million Rate

President Truman has recommended that Congress enact legislation continuing the federal-aid highway program at a $500 million annual rate for the fiscal years ending June 30, 1950, and June 30, 1951. The recommendation was embodied in a February 9 message.

The proposed legislation would authorize appropriations of the $500 million a year for the two additional years, thus permitting the Public Roads Administration to make plans in anticipation of subsequent appropriations of the authorized amounts. Authorizations under which P. R. A. has been working for the past four years will expire on June 30, 1949, the end of the next fiscal year. They were set up on the $500 million annual basis (a total of $1,500 million) for the three fiscal years 1946, 1947 and 1948 and then extended for fiscal 1949.

Various bills to continue the advance-authorizations set-up were pending in the House and Senate when the President submitted his recommendation. In support of his proposal, Mr. Truman said "it is necessary at this time to extend the authorizations in order that the states may have adequate opportunity for an orderly development of further construction programs."

He went on to say that highway construction in recent years had not kept pace with the growth of traffic, adding that there are now on the highways "nearly three million" more vehicles than before the war. "Modern automobiles, heavier trucks, greater pleasure and commercial travel all increase the need to improve our highways as a means of lowering the present shocking total of highway accidents," Mr. Truman also said.

In closing he called the program he was recommending "a conservative one, necessary to maintain prudently our investment in highways." He added that "when conditions permit in the future, we should plan to accelerate our progress toward a highway system adequate to carry our expanding agricultural and business traffic, to accommodate with safety and speed the personal travel of our people, and to meet the needs of our national security."

Increase in "Red Cap" Fee Assailed in Complaint Filed with Commission

A complaint charging that the recent increase from 10 to 15 cents per piece of luggage for handling the baggage of railroad passengers in "red cap" service is unreasonable and in violation of the national transportation policy has been filed with the Interstate Commerce Commission by the United Transport Service Employees, Congress of Industrial Organizations, and eight other organizations and individuals. The union said it represents the "red caps" employed by the 24 railroads and terminal companies named in the complaint. The complainants have requested the commission to find, after a hearing and investigation, that the 15-cent charge is unjust and order the restoration of the 10-cent fee. They also hold that the commission should enter such orders for damages or reparations as it may consider proper.

The complaint contended that the increase will (1) not provide any increased revenues for the carriers involved; (2) further discourage the use of "red cap" service and tend to create unemployment; (3) discourage travel and impose an unreasonable burden and expense on those persons who travel and avail themselves of "red cap" service; and (4) arouse public antagonism toward "red caps," thereby lowering their working morale and resulting in inefficient service.

Other parties to the complaint include Dr. E. R. Embree, representing the Julius Rosenwald Fund, Chicago; Representative W. L. Dawson, Democrat of Illinois; J. B. Carey, secretary-treasurer, C. I. O.; Dr. R. W. Jelliffe, executive director, Karmu House, Cleveland, Ohio; J. I. Loeb, Jr., director, Americans for Democratic Action; Chat Patterson, president, American Veterans Committee; W. P. Reuther, president, United Auto Workers of America, C. I. O.; and Carter Wesley, president, The Freedmen's Publishing Co.

Bill Would Ease Conditions for Sale of Federal Barge Lines

Conditions under which the transportation facilities of the Federal Barge Lines, operated by the government-owned Inland Waterways Corporation, may be sold to private interests would be made less restrictive under the provisions of a bill, H. R. 5318, introduced in the House by Representative Wolverton, Republican of New Jersey. Mr. Wolverton is chairman of the House committee on interstate and foreign commerce.

His bill would authorize the Secretary of Commerce to sell, lease, or

otherwise dispose of I. W. C. properties, provided the purchaser or lessee, which could not be a railroad or railroad affiliate, agreed to continue the facilities in common-carrier service in a manner "substantially similar" to the service rendered by I. W. C., "with due regard to the transportation needs of the areas served." The restriction against acquisition by a railroad or railroad affiliate would not apply to the facilities of I. W. C.'s Warrior River division.

Under the present law I. W. C. is required to carry on as a government operation until: (a) There shall have been completed navigable channels on the Mississippi river system as authorized by Congress; (b) terminal facilities shall have been provided on such waterways reasonably adequate for joint rail and water service; (c) joint rail-barge rates shall have become generally available; and (d) private operators engage in, or shall be ready to engage in, common carrier operations on such waterways.

Representative Ploeser, Republican of Missouri, who is chairman of the House's so-called small business committee, endorsed the Wolverton bill in a February 9 statement, made on behalf of the committee. Mr. Ploeser predicted that enactment of the bill would facilitate the sale of the I. W. C. facilities.

"Already," he continued, "two interested buyers have been making preliminary negotiations with the Commerce Department toward purchase of the line. . . . The first group is reported to be contemplating a down payment of 10 per cent of the sales price and the balance in 20 years at 3½ per cent interest, which is regarded as normal and satisfactory by the Commerce Department."

As to selling price, the Wolverton bill would delay the sale until I. W. C. properties had been appraised by the Interstate Commerce Commission; and such appraisal would have to be "considered" by the Secretary of Commerce. Also, the bill calls for approval by the President of any arrangement entered by the secretary.

Improved Schedules for 49 L. & N. Freights, Many Passenger Trains

The Louisville & Nashville on February 1 adjusted schedules affecting some 49 freight trains and a number of passenger trains. Announcing the changes in freight schedules, J. G. Metcalfe, superintendent of transportation, said that schedules would be "dovetailed" to give faster through movements to traffic while on the rails of the L. & N. between Ohio and Mississippi River crossings and points in the southeast and Florida, as well as to and from New Orleans, La., Mobile, Ala., and Pensacola, Fla. Arrivals and departures at junction points have been arranged to connect with fast freights of connecting lines to provide through service to points beyond the rails of the L. & N., he stated.

The speed-up in passenger schedules, as announced by G. U. Yager, general passenger agent, makes possible an earlier arrival at Atlanta, Ga., of "The Flamingo." Under the new schedule, this train departs from Cincinnati, Ohio, at 8 p. m. instead of 8:40 p. m., and from Louisville, Ky., at 6:45 p. m. instead of 7:15 p. m., arriving in Atlanta at 8:30 a. m. instead of 9:15 a. m. The schedule permits "The Flamingo" to connect with the Georgia's train leaving Atlanta at 9 a m. for Augusta, Ga., and with the Central of Georgia equipment departing from Atlanta at 8:40 a. m. for Macon, Ga., and Savannah. Mr. Yager said that "slow" orders made necessary as a result of the hurricane damage to the railroad last September have been lifted, permitting all trains to arrive at New Orleans 10 to 25 minutes earlier—with the exception of "The Crescent"—and to depart from that point 10 to 45 minutes later. There will be no change in the present schedules of these trains north of Mobile, he said.

Probe of Truckers' C. O. D. Rules Set Back Until February 18

The Interstate Commerce Commission has set back to February 18 its scheduled February 17 hearing with respect to its investigation into the rules, regulations and practices of motor common carriers of property governing the handling of C. O. D. shipments and the collection and remittance of C. O. D. funds. The hearing will be held at the commission's Washington, D. C., offices before Examiner J. J. Williams. (See *Railway Age* of December 27, 1947, page 70.)

Freight Car Loadings

Loadings of revenue freight for the week ended February 7 totaled 747,394 cars, the Association of American Railroads announced on February 12. This was an increase of 20,356 cars, or 2.8 per cent, above the preceding week, a decrease of 19,907 cars, or 2.6 per cent, below the corresponding week last year, and an increase of 34,154 cars, or 4.8 per cent, above the comparable 1946 week.

Loading of revenue freight for the week ended January 31 totaled 727,038 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., appears below.

In Canada.—Carloadings for the week ended January 31 totaled 73,230 cars as compared with 71,769 cars for the previous week and 69,962 cars for the corresponding week last year according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 31, 1948 ..	73,230	33,565
February 1, 1947 ..	69,962	39,218
Cumulative totals for Canada:		
January 31, 1948 ..	349,090	165,073
February 1, 1947 ..	334,032	177,733

Propose Large 100th Anniversary RR Show at Chicago This Summer

Tentative plans were made public recently for the presentation of an elaborate railroad show at Chicago this summer to commemorate the entry into that city of the first steam locomotive 100 years ago. The show was suggested by the Chicago Tribune at a gathering of railroad executives, and would be open to participation in by all of the nation's railroads and railroad supply manufacturers. The proposed event coincides with previously announced plans of the Chicago & North Western to celebrate its centennial this year, having been the railroad—then known as the Galena & Chicago Union—to operate Chicago's first steam locomotive (See *Railway Age* of January 31, page 60).

Plans for the show were further discussed by railroad presidents and their representatives on January 30, at an informal meeting which followed a regu-

Revenue Freight Car Loadings

For the Week Ended Saturday, January 31

District	1948	1947	1946
Eastern	135,457	159,239	136,681
Allegheny	153,228	181,555	129,240
Pocahontas	62,092	71,189	60,944
Southern	118,363	147,422	133,157
Northwestern	83,080	81,625	81,180
Central Western	120,326	127,111	121,246
Southwestern	54,492	66,910	60,853
Total Western Districts	257,898	275,646	263,279
Total All Roads	727,038	835,051	723,301
Commodities:			
Grain and grain products	40,900	53,664	54,398
Livestock	9,393	11,744	19,189
Coal	170,269	198,310	187,880
Coke	14,758	14,635	7,506
Forest products	36,903	50,813	36,368
Ore	10,706	12,900	5,985
Merchandise l.c.l.	102,610	118,777	118,788
Miscellaneous	341,499	374,208	293,187
January 31	727,038	835,051	723,301
January 24	771,992	821,928	708,554
January 17	811,286	828,060	749,443
January 10	831,447	830,953	772,888
January 3	682,038	687,428	652,978
Cumulative total, 5 weeks	3,823,801	4,003,420	3,607,164

lar business session of the Western Association of Railway Executives. One spokesman described the railroad executives as "enthusiastic" about the proposed show. R. L. Williams, president of the North Western, was selected to head a committee of Chicago railroad presidents which will solicit the support of railroads throughout the country.

According to the Tribune, the event would be "the greatest railroad show" ever held. The newspaper stated that the spectacle would be divided into three parts, as follows: (1) A large outdoor stage for the presentation of the story of the Iron Horse, which would include, among other things, a dramatic portrayal of Indian attacks on early rail builders; (2) tent shows for displays of equipment used in railroading; and (3) outdoor exhibits of the latest types of cars and locomotives, which would be placed on a series of tracks in the exhibition area.

Activities at night would be featured by railroad movies, such as "Union Pacific" and the "Harvey Girls," presented on large outdoor screens, the Tribune stated. Major Lenox R. Lohr, president of the Museum of Science and Industry at Chicago, who served as general manager of the "Century of Progress" exposition, has been asked to supervise the staging of the show. The Tribune placed July 15 as the tentative starting date for the event.

Registration of Lobbyists

The January 29 issue of the Congressional Record published registrations received during the fourth quarter of 1947 by the clerk of the House of Representatives and the secretary of the Senate under the provisions of the Regulation of Lobbying Act which was enacted in 1946 as part of the law providing for the reorganization of congressional procedures.

Among the registrants was J. Carter Fort, vice-president and general counsel of the Association of American Railroads, who filed a supplement to his original registration of a year earlier. Mr. Fort reported that his salary had been increased by $10,000 a year, effective January 1. His original registration reported his annual salary at $40,000. Another revised return reflecting a change in salary was that of Giles Morrow, counsel for the Freight Forwarders Institute, who reported his present salary as $10,000 per year.

Other registrants on the list, the interests they represent and their reported salaries, included the following: Carlisle Bargeron, National St. Lawrence Project Conference, $2,800 and bonus of $800 for last year's fourth quarter; Carroll B. Huntress, National St. Lawrence Project Conference, no compensation but reimbursement for expenses; Walter J. Munro, Brotherhood of Railroad Trainmen, $760.39 monthly; Robert A. Rice, Railway Mail Association, American Federation of Labor, $8,500 a year; Thomas G. Stack, National Railroad Pension Forum, Inc., "no fixed amount" of compensation but reimbursement for "all legitimate expenses."

Daily Service for "Super Chief" "El Capitan" Begins February 29

On February 29, the "Super Chief" and the "El Capitan", Diesel-powered streamlined trains of the Atchison, Topeka & Santa Fe operating between Chicago and Los Angeles, Cal., will go into daily service, Fred G. Gurley, president, announced this week. The trains presently depart from Chicago and Los Angeles on alternate days, with a running time of 39¾ hr. each.

"The new equipment, making possible the additional trains and the daily service," Mr. Gurley stated, "will include non-fogging windows, improved lighting, heating and air conditioning, together with improved design in trucks, anti-slide wheel devices, and increased insulation providing less outside noise, greater safety, comfort and convenience for passengers."

The daily "Super Chief" will be an all-room train, with roomettes for individuals, bedroom-compartment suites, drawing room compartment suites and drawing room-bedroom suites. Bedrooms, compartments and drawing rooms will also be available. Departure time of this train will remain unchanged.

The "El Capitan", all-coach streamliner, will depart from Chicago's Dearborn station at 5:45 p.m. daily and arrive in Los Angeles on the second day at 7:30 a.m. It will depart from Los Angeles at 1:30 p.m. and arrive in Chicago at 7:15 a.m. on the second day.

The equipment for the new daily trains was manufactured by the Pullman-Standard Car Manufacturing Company, with the exception of lunch-counter diners on the "El Capitan", which were built by The Budd Company.

I.C.C. Upholds Division 4's Findings in Transcontinental Bus Proceeding

The Interstate Commerce Commission, in a report on reconsideration, has affirmed in part the findings set out in a December 9, 1947, report and order of its Division 4 wherein the latter approved plans and financing whereby all passenger-carrier operating rights of the Santa Fe Trail Transportation Company, a subsidiary of the Atchison, Topeka & Santa Fe, would be acquired by the recently organized Transcontinental Bus System in which Trail would have a 39.1 per cent stock interest. The division's decision, which was noted in the *Railway Age* of December 20, 1947, page 61, also authorized Transcontinental to acquire Trail's 50 per cent interest in Southern Greyhound Lines, control of the Continental Bus System and its subsidiaries, and the operating rights of the Dixie Motor Coach Corporation.

Reopening of the proceeding (Docket No. MC-F-3504) was ordered by the commission last month as the result of petitions filed by American Bus Lines and the Amalgamated Association of Street, Electric Railway and Motor Coach Employees. The division had refused to impose labor-protection conditions sought by Amalgamated.

According to the commission's report, the main point stressed by the petitioners related to the question of railroad affiliation, it being contended that the transactions required a special showing (under section 5(2)(b) of the Interstate Commerce Act) that they would enable the Santa Fe "to use service by motor vehicle to public advantage in its operations," and would not "unduly restrain competition." The commission, however, found that nothing was shown to indicate that Transcontinental would be operated in any way in the interest of the Santa Fe.

"The headquarters of the new company are to be at Dallas, Texas, and there is no indication in the record that the railroad intends to participate in any material degree in the management of the new company," it said in part. "As assurance of the railroad's intention to get out of the bus business, and the lack of its desire to participate in the management of Transcontinental, it has indicated a willingness to have our decision . . . conditioned to (a) trustee its stock, and (b) provide for no representation on the board of directors or in the management. . . ."

Although the commission said that such conditions could not be required unless there were grounds for a finding of "control" or "affiliation," neither of which, it added, are present, the imposition of such conditions was favored in separate concurring opinions by Commissioners Aitchison and Miller.

With respect to the imposition of labor-protection conditions, the commission decided to reserve jurisdiction for a period of two years from the consummation date of the transactions, which, it ordered, shall not become effective prior to February 25. "Consummation of the transaction by applicants will be considered acceptance of the reservation of jurisdiction by us in this connection," the report said.

SUPPLY TRADE

Pressed Steel Car 1947 Net Amounted to $1,206,782

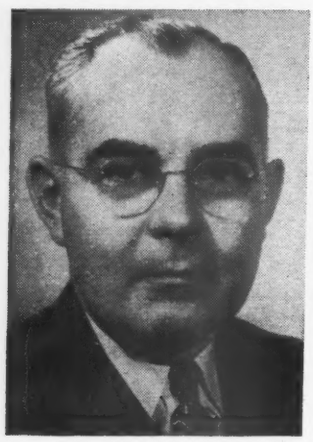
Pressed Steel Car Company and its subsidiaries earned net income of $1,206,782 in 1947, compared with a net loss of $2,320,535 before tax carryback refund in the preceding year, according to the firm's preliminary annual report. The net profit reported for 1947 includes profit from the sale of

securities amounting to approximately $495,000, while the net loss for 1946 was cut to $445,535 after the tax carryback refund. Net sales last year totaled about $49,300,000, compared with $25,200,000 in 1946. Unfilled car orders on December 31, 1947, were around $54,400,000, or about $8,700,000 higher than at the end of 1946.

Frederick K. Vial, vice-president and a director of the **Griffin Wheel Company** at Chicago, has retired after 45 years of service with the company.

Earl J. Goris, formerly associated with the advertising department of the General Electric X-Ray Corporation at Chicago, has been appointed advertising manager of the **Dearborn Chemical Company**, with headquarters at Chicago.

L. E. Lee has been appointed sales manager of the **Duff-Norton Manufacturing Company**. Mr. Lee began his business career with the Goodyear Tire & Rubber Co. In 1933 he joined the Johns-Manville Sales Corporation of



L. E. Lee

New York, as manager of sales promotion and jobber relations and for the past nine years he has worked in the transportation department at Cleveland, Ohio.

Samuel O. Dunn, chairman of the Simmons-Boardman Publishing Corporation —publishers of *Railway Age*—has been elected, also, president of the corporation. **James G. Lyne**, assistant to chairman, has been elected executive vice-president. Messrs. Dunn and Lyne will continue, as heretofore, to share jointly the editorship of *Railway Age*. **H. H. Melville**, district sales manager for the corporation's transportation periodicals at Cleveland, has been elected a vice-president, as has also **C. W. Merriken**, district sales manager at New York.

The **Pressed Steel Car Company** has announced that its freight car sales offices in Pittsburgh, P., (the company's home office), New York and Chicago, shortly will be consolidated in Chicago.

Edward Quekels, sales manager of the **Bear Manufacturing Company** for the last 15 years, has been appointed director of a newly created product development and service department. **Walter V. Hall**, who joined the company as a market specialist a year ago, will take over sales of automotive alinement and industrial balancing equipment.

C. W. Bird, formerly service engineer of the **Bird-Archer Company** in the New England territory, has been transferred to Shreveport, La., where he will be in charge of all sales and service for the Louisiana, east Texas and southern Arkansas area.

John V. Bowser, vice-president and controller of the **Westinghouse Air Brake Company** and **M. L. Gray**, vice-president and manager of export of the **Union Switch & Signal Co.**, have been elected to the Westinghouse board of directors.

Elmer Anderson, formerly assistant service manager of the **Timken Roller Bearing Company**, has been appointed service manager to succeed **Pardee H. Frank**, who has retired after 27 years of continuous service.

The Air Reduction Pacific Company, a subsidiary of the **Air Reduction Company** recently organized to take over the West Coast business of the Air Reduction Sales Company, has announced the appointments of four vice-presidents, as follows: **L. A. Hamilton** for the Seattle, Wash., district; **E. W. MacCorkle, Jr.**, for the Portland, Ore., district; **H. W. Saunders** for the San Francisco, Calif., district and **H. A. Hoth**, for the Los Angeles, Calif., district.

Hewitt-Robins, Inc. has leased a warehouse at 1010 Pennsylvania avenue, Charleston, W. Va., to hasten deliveries in the industrial south, particularly the mining areas of Virginia, West Virginia, Kentucky, North and South Carolina, it has been announced. The company's Charleston office, including all field service personnel, will be located at the new address. The company also has announced the appointment of the **Galigher Company**, 545 West Eighth South street, Salt Lake City, Utah, as exclusive representatives of its Robins conveyors division, to cover Utah and parts of Idaho, Montana, Nevada and Wyoming. The Robins conveyors division has announced the opening of a new sales office at Kansas City, Mo., to be headed by **C. Boyd Goodhart.**

John R. Gaut has been appointed assistant manager, Chicago district operations, of the **American Steel & Wire Co.**, and is succeeded as general superintendent at the Waukegan (Ill.) works by **Nelson W. Dempsey**, division superintendent of wire mills.

OBITUARY

Ray G. Aurien, assistant chief mechanical engineer of the American Steel Foundries at Chicago, died at his home in Evanston, Ill., after an illness of several months. Mr. Aurien had been a member of the firm's engineering staff since 1929, prior to which time he had served in the engineering department of the American Brake Company at St. Louis, Mo.

Charles Lee Sullivan, Jr., president and general manager of the Thresher Paint & Varnish Co., at Dayton, Ohio, died of a heart attack recently at his home in that city.

EQUIPMENT AND SUPPLIES

R. I. Will Spend $33,000,000 for New Equipment and Improvements

At a meeting in Chicago on February 9, the board of directors of the Chicago, Rock Island & Pacific authorized expenditures totaling more than $33,000,000 for improvements and for the purchase of 57 Diesel-electric locomotives and 2,000 freight cars. Following the meeting, John D. Farrington, president, said that the equipment to be purchased will include ten 1,500-hp. Diesel-electric locomotives for Dieselization of about half of the road's suburban service. The decision to place Diesels on the road's suburban runs came as a result of successful tests conducted recently with a 1,500-hp. Diesel built by the Electro-Motive Division of General Motors Corporation, he said.

The following Diesel locomotives will be purchased for delivery during 1948: ten 1,000-hp. switchers, ten 1,500-hp. road switchers and eight 4,500-hp. road freight locomotives, at a cost of $5,688,000; and ten 1,500-hp. engines for suburban service, which will cost $1,300,000. The road will also spend $9,000,000 for the purchase of 1,500 box cars and 500 70-ton hoppers. Authorized for delivery in 1949 were five 1,000-hp. switchers and ten 4,500-hp. road freights, at a cost of $4,700,000.

Orders for the freight cars and suburban Diesels have not been placed, it was stated.

Mr. Farrington said the road would receive next week four 4,000-hp. Diesel-electric passenger locomotives built by the Electro-Motive Division of General Motors Corporation. These locomotives were ordered recently for placement in the road's service to California and between Kansas City, Mo., and Minneapolis, Minn. Delivery of all of the aforementioned locomotives will bring the road's total number of Diesels to 203.

The Rock Island's major line, signal and relocation program will be continued, it was stated, and it is expected that approximately $13,000,000 will be spent for these improvements. Some $1,000,000 has been alloted to new or improved passenger and freight stations, shops and other building construc-

tion. The Rock Island president said that the road is considering the construction of a $1,500,000 gravity-type classification yard at Kansas City, but that the project is in the "planning" stage and not a part of this year's budget.

Commenting on the Dieselization of the road's suburban service, Mr. Farrington said he expected the new locomotives to make a 15 per cent return on the railroad's investment. About 16 or 17 steam locomotives will be replaced by the 10 Diesels, he said, and an additional 12 or 14 of the 1,500-hp. units will completely Dieselize the Rock Island's suburban service.

LOCOMOTIVES

The **Louisville & Nashville** is inquiring for 22 steam locomotives of the 2-8-4 type.

The **Manila Railway Company**, Philippine Islands, has ordered 7 steam locomotives of the 4-8-2 type from the Vulcan Iron Works. Scheduled for delivery next July, the locomotives will be used in freight and passenger service.

FREIGHT CARS

January Freight Car Output Totaled 8,964

Freight cars produced in January for domestic use amounted to 8,964, including 2,403 built in railroad company shops, compared with December production of 9,823 cars, which included 2,162 constructed in railroad company shops, according to the Amerian Railway Car Institute. Freight cars ordered last month for domestic use totaled 9,213, including 5,586 ordered from railroad company shops, compared with December orders for 4,218 cars, including 1,250 ordered from railroad company shops. The backlog of freight cars on order and undelivered on February 1 was 119,711, including 33,497 on order from railroad company shops.

IRON and STEEL

The **Reading** has ordered 500 tons of steel rail from the Bethlehem Steel Company.

SIGNALING

The Duluth, Missabe & Iron Range has placed orders with the Union Switch & Signal Co. covering materials for an all-relay, code-controlled interlocking plant at Sherwood, Minn., and for seven miles of code-controlled, single-track signaling, extending to Fraser. The order involves a 2-ft. 6-in. Style-C interlocking machine for the control of the functions in the plant and the single-track territory, as well as the required office and field code units, Style-H-2 searchlight signals, Style-M-22B dual-control electric switch machines, Style-SL-6A electric locks, coded track circuit materials and housings. The field installation work will be carried out by the regular construction forces of the railroad.

ORGANIZATIONS

The annual meeting of the **Society for Experimental Stress Analysis** will be held at the Roosevelt hotel, Pittsburgh, Pa., on May 27-29, inclusive.

Club Meetings

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION. — Lawrence Wilcox, Room 827, 80 E. Jackson Blvd., Chicago 4, Ill.

ALLIED RAILWAY SUPPLY ASSOCIATION.—C. F. Weil, American Brake Shoe Company, 332 S. Michigan Ave., Chicago 4, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis 1, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS. — Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, June 8-10, 1948, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION. — Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 20-22, 1948, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—W. J. Walsh, B. & O. R. R., Baltimore, 1, Md. Annual meeting, April 5-7, 1948, Hotel Roosevelt, New Orleans, La.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 16-18, 1948, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Harry Walker, D. & R. G. W. R. R., Room 204, Rio Grande Bldg., Denver, Colo.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—C. E. Huntley, Tower Bldg., Washington 5, D. C.

AMERICAN SOCIETY FOR TESTING MATERIALS.—R. J. Painter, Asst. Secretary, 1916 Race St., Philadelphia 3, Pa. Spring meeting and Committee Week, March 1-5, 1948, Hotel Statler, Washington, D. C. Annual meeting, June 21-27, 1948, Book-Cadillac Hotel, Detroit, Mich.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18, N. Y. Semi-annual meeting, May 30 - June 4, 1948, Milwaukee, Wis. Annual meeting, November 28 - December 3, 1948, New York, N. Y.

Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill.

AMERICAN WOOD-PRESERVERS' ASSOCIATION. —H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C. Annual meeting, April 27-29, 1948, Hotel St. Paul, St. Paul, Minn.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—W. F. Ziervogel, 605 S. Ranken Ave., St. Louis 3, Mo.

ASSOCIATION OF AMERICAN RAILROADS. — George M. Campbell, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department.—J. H. Aydelott, Vice-president, Transportation Bldg., Washington 6, D. C.

Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.

Operating Section. — J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.

Communications Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Protective Section. — J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 16-18, 1948, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, September 14-16, 1948, Hotel Statler, Buffalo, N. Y.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, June 28-30, 1948, Congress Hotel, Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, September, 1948, Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington 6, D. C.

Freight Claim Division. — Lewis Pilcher, (Executive Vice-Chairman), 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, May 11-13, 1948, McAllister Hotel, Miami, Fla.

Motor Transport Division. — Transportation Bldg., Washington 6, D. C.

Car Service Division. — W. C. Kendall, Chairman, Transportation Bldg., Washington 6, D. C.

Finance Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C. Annual meeting, June 29 - July 1, 1948, Hotel Cleveland, Cleveland, O.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C. Annual meeting, September 13-15, 1948, French Lick Springs Hotel, French Lick, Ind.

Traffic Department.—Walter J. Kelly, Traffic Officer, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILROAD ADVERTISING MANAGERS.—E. A. Abbott, 1103 Cleveland St., Evanston, Ill.

ASSOCIATION OF RAILWAY CLAIM AGENTS. —F. L. Johnson, Gulf, Mobile & Ohio R. R., 340 W. Harrison St., Chicago 7, Ill. Annual meeting, May 19-21, 1948, French Lick Springs Hotel, French Lick, Ind.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—E. C. Gunther, Duff-Norton Mfg. Co., 122 S. Michigan Ave., Chicago 3, Ill. Exhibit in conjunction with meeting of the American Railway Bridge and Building Association, September 20-22, 1948, Hotel Stevens, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal 28, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis 3, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 20-23, 1948, Hotel Sherman, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—W. E. Angier, chief A. A. R. clerk, C. B. & Q. R. R., 547 W. Jackson Blvd., Chicago 6, Ill. Regular meetings, second Monday of each month except June, July and August, LaSalle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

CHICAGO LUNCHEON CLUB OF MILITARY RAILWAY SERVICE VETERANS.—Col. R. O. Jensen, Schiller Park, Ill. Luncheon, second Wednesday of each month, Chicago Traffic Club, Palmer House, Chicago, Ill.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark. Annual meeting, September 20-23, 1948, Hotel Sherman, Chicago, Ill.

MAINTENANCE OF WAY CLUB OF CHICAGO.—

C. R. Knowles, Room 2000, 105 W. Adams St., Chicago 3, Ill. Regular meetings, fourth Monday of each month, October through April, inclusive, except December, when the third Monday, Hardings at the Fair.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting, September 20-23, 1948, Hotel Sherman, Chicago, Ill.

METROPOLITAN MAINTENANCE OF WAY CLUB.—John Vreeland, Simmons-Boardman Publishing Corp., 30 Church St., New York 7, N. Y. Meets in October, December, February and April. Next meeting, February 26, 1948, dinner, Hotel Sheraton, Skyline Room, New York, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington 25, D. C. Annual meeting, November 15-18, 1948, Hotel Oglethorpe, Savannah, Ga.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—F. J. Armstrong, United States Radiator Corporation, United Artists Bldg., Detroit, Mich.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C. Annual meeting, November 18-19, 1948, Hotel Pennsylvania, New York, N. Y.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—R. B. Fisher, Suite 2414, 1 N. La Salle St., Chicago, Ill. Meeting and exhibit in connection with A. R. E. A. Convention, March 15-18, 1948, Amphitheatre, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston 11, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y.

NORTHWEST CARMEN'S ASSOCIATION.—E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 458, San Rafael, Cal. Regular meetings, second Thursday of each alternate month at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill. Annual meeting, September 20-23, 1948, Hotel Sherman, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—A. W. Brown, Room 1424, 30 Church St., New York 7, N. Y.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with Communications Section, of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo. Annual meeting, August 30 - September 1, 1948, Greenbriar Hotel, White Sulphur Springs, W. Va.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 20-22, 1948, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—P. J. Climer, Acting Sec'y, N. C. & St. L. Ry., Nashville, Tenn.

TORONTO RAILWAY CLUB.—D. L. Chambers, Acting Sec'y. P. O. Box 8, Terminal "A", Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago 5, Ill. Exhibit in conjunction with meeting of the Roadmasters and Maintenance of Way Association, September 20-22, 1948, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 225 Bidwell Ave., Westerleigh, Staten Island 2, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

FINANCIAL

Atchison, Topeka & Santa Fe. — *New Director.*—Streeter B. Flynn, a member of the law firm of Rainey, Flynn, Green & Anderson, at Oklahoma City, Okla., has been elected a director of this road.

Alton & Southern-St. Louis & Ohio River.—*Consolidation.*—These roads, the entire capital stocks of which are owned by the Aluminum Company of America, have jointly applied to the Interstate Commerce Commission for authority to consoldate into a single corporation under the name of the Alton & Southern. All operations of the St. L. & O. R., which has no employees, are conducted by the A. & S. According to the applicants, commission approval of the proposed consolidation would result in the avoidance of intercompany transactions and accounting problems.

Also authority is sought for the consolidated corporation to have an authorized capital stocks of 50,000 shares, par value $100 per share, of which 49,500 shares would be issued and outstanding at the time of the effective date of the consolidation. The A. & S. now has 35,000 shares outstanding and the St. L. & O. R., 14,500 shares, each of the par value of $100 per share.

Chesapeake & Ohio.—*Equipment Trust Certificates.*—This road has sold $4,900,000 of equipment trust certificates to Salomon Brothers & Hutzler and associates on a bid of 99.108 for 2 per cent obligations. The offer represented a net interest cost basis to the C. & O. of about 2.17 per cent. (See the *Railway Age* of January 31, page 274.) The certificates were reoffered to the public at prices yielding from 1.30 per cent to 2.35 per cent, according to maturity.

Chicago River & Indiana. — *Trackage Rights.*—Acting upon a petition filed by this road and its trunk line connections, the Interstate Commerce Commission has modified its order of May 16, 1922, in the so-called Chicago Junction Case (Finance Docket No. 1165) so as to approve an increase from $1 to $1.50 per car, effective January 19, which the petitioners will pay the Chicago Junction for the use of its tracks. The C. J. is controlled by the C. R. & I., which, in turn, is controlled by the New York Central. The $1 charge, the commission's order noted, has been in effect since August 26, 1920.

Chicago, Rock Island & Pacific.—*Promissory Notes.*—This road has applied to the Interstate Commerce Commission for authority to issue at par $1,239,360 of promissory notes to further evidence the indebtedness it will assume under a conditional sales agreement. The applicant plans to acquire 4 4,000-hp. Diesel-electric passenger locomotives, at a total estimated cost of $1,652,604, from the Electro-Motive Division of the General Motors Corporation. The notes, to be dated March 1, will mature in eight annual installments of $154,920, starting March 1, 1949. The rate of interest will be determined by competitive bidding. According to the applicantc, the notes will be issued directly to the Rock Island Improvement Company, the original seller under the agreement, or to the assignee thereof.

Chicago, Rock Island & Pacific.—*No Action on Common Dividend.*—Following a meeting of this road's board of directors at Chicago on February 9, John D. Farrington, president of the Rock Island and chairman of its board, stated that "under no circumstances" would the board consider a dividend payment on the common stock for the four-year period subsequent to January 1, 1944, the effective date of the railroad's reorganization plan. Current dividends on the common stock, he added, would not be paid until the road's earning ability had been "fully developed."

Chicago, Rock Island & Pacific. — *Reorganization.*—Possible rehearing and modification of this road's plan of reorganization was thwarted this week when the Interstate Commerce Commission denied a petition filed by a group of holders of the old company's convertible gold bonds, due May 1, 1960. The bondholders, in a petition dated December 26, 1947, asked the commission to deny the application of this road's reorganization managers for authority to carry out the commission- and court-approved plan of reorganization under section 77 of the Bankruptcy Act. As reported in *Railway Age* of January 3, page 256, the commission's Division 4, in an order dated December 23, 1947, granted the reorganization managers the necessary authorizations, including the acquisition of certain properties of the debtor and the issuance of certain securities.

Hillsboro & Northeastern. — *Notes.* — This road has applied to the Interstate Commerce Commission for authority to issue $15,000 in notes as evidence of a loan of a like amount from the Marine National Exchange Bank, Milwaukee, Wisc. Proceeds of the loan will be applied toward the purchase and rebuilding costs of a 45-ton Diesel-electric locomotive. The locomotive, constructed by the Davenport Besler Corp., Davenport, Ia., will be acquired from the War Assets Administration for $9,750. The notes, to be dated December 1, 1947, will bear interest at the rate of 4 per cent annually, and will

mature in 10 annual installments of $1,500, starting December 1, 1957. They will be secured by a chattel mortgage on the locomotive.

Joliet & Chicago. — *New Directors.* — I. B. Tigrett, F. M. Hicks, S. A. Dobbs, I. H. Wente and James Williams have been elected to this road's board of directors as representatives of the Gulf, Mobile & Ohio, which recently acquired control of the J. & C. (See the *Railway Age* of December 20, 1947, page 1087).

Missouri-Kansas-Texas. — *New Director.*—B. C. MacDonald of St. Louis, Mo., president of the B. C. MacDonald Company, a manufacturers' agency, has been elected a director of this road.

Missouri Pacific.—*Denied Authority to Sell Bus Subsidiary.*—Federal Judge George H. Moore, at St. Louis, Mo., has denied this road's application for permission to sell its bus subsidiary—the Missouri Pacific Transportation Company—to the American Bus Lines of Chicago, for $3,819,998. The M. P.'s application to dispose of its subsidiary was reported in the *Railway Age* of January 24.

Minneapolis & St. Louis.—*Changed Dividend.*—This road has declared a dividend of 25 cents a share on the common stock, payable on March 10 to stockholders of record on February 27. The previous payment was 50 cents a share on October 24, 1947.

Missouri Pacific.—*Alleghany Reduces Holdings.*—The Alleghany Corporation has disposed of its bondholdings in the Missouri Pacific system. The securities disposed of by Allegheny consisted ot $3,210,000 Missouri Pacific first and refunding bonds, $659,000 New Orleans, Texas & Mexico first mortgage bonds, $1,196,000 International-Great Northern first mortgage bonds, and $11,152,000 Missouri Pacific 5½ per cent convertible bonds. Alleghany still owns 499,200 shares of Missouri Pacific common stock.

New York, New Haven & Hartford.—*Equipment Trust Certificates.* — This road has applied to the Interstate Commerce Commission for authority to assume liability for $6,480,000 of equipment trust certificates, the proceeds of which will be applied toward the purchase of the following streamlined passenger equipment from the Pullman-Standard Car Manufacturing Co.:

Description	Estimated Unit Price
30 coaches	$ 64,250
25 parlor-chair cars	64,450
20 baggage-parlor-lounge cars	71,800
5 parlor-lounge cars	67,000
10 grill cars	105,000

The certificates, to be sold on the basis of competitive bidding, would be dated February 1 and would mature in 15 annual installments of $432,000, starting February 1, 1949.

Pennsylvania.—*Equipment Trust Certificates.*—This road has sold $10,890,000 of series S equipment trust certificates to Salomon Brothers & Hutzler and associates on a bid of 99.329 for 2⅜ per cent obligations. The certificates were reoffered to the public at prices yielding from 1.25 per cent to 2.70 per cent, according to maturity. (See the *Railway Age* of January 31, page 275).

Pennsylvania.—*Annual Report.*—Operating revenues of this road last year totaled $903,268,089, an increase of $81,260,504 over 1946. Operating expenses amounted to $789,877,541, an increase of $44,201,141. Net income was $7,285,125, compared with a net deficit of $8,530,317 in 1946 and a net income of $49,008,238 in 1945. Current assets at the end of the year were $253,627,517, an increase of $7,784,261. Current liabilities were $166,768,583, an increase of $29,421,473.

The net profit last year is described in the report as particularly unsatisfactory in view of the tremendous volume of peacetime business handled and the general prosperity of the country, labor, agriculture and industry. The narrow margin of profit shown, the report states, was largely the result of income from investments made in the past. "The year 1947 should have been one of your company's most satisfactory years," M. W. Clement, president, said to the stockholders in the report. "If adequate rates had been in effect, your company could have made sufficient earnings not only to have paid its stockholders a proper dividend but to have made up part of the deferred maintenance brought about by the war and to have set aside reasonable funds for improvements to plant and equipment, so essential to provide the type of service now desired. The reason your company did not have a satisfactory profit for the year was due to the lag between advancing costs and the rate increases allowed by regulatory authorities. . . ."

Over the period 1939 through 1947 there has been a net reduction in the funded debt of the system held by the public of $171,819,816, or 15.5 per cent, according to the report. During 1947, $29,995,000 of new equipment trust obligations were issued, which were partially offset by the payment of maturities, sinking fund operations and the acquisition of company and system obligations, so that the net increase for the year of system debt held by the public was $7,690,572. It is proposed to modify the regulations governing the administration of the fund known as the "Trust of 1878" which was created 70 years ago largely to make possible the acquisition of the stock of leased lines, as to which the Pennsylvania has assumed a guaranty obligation. Under present conditions, the report said, it is desirable to broaden the scope of the regulations governing the fund's administration, so that it also can operate as a general sinking fund available for the gradual reduction of any financial obligations for which the company is liable. The proposal will be voted upon at the annual meeting in Philadelphia, Pa., on May 11.

Wabash.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has approved a 99-year agreement, dated April 1, 1947, under which this road will continue to operate over approximately 1.2-mi. of the Chicago, Burlington & Quincy from a point in North Kansas City, Mo., to Kansas City. The segment, which includes a Missouri River bridge, forms part of the applicant's main line between Kansas City and the east. The transaction was approved subject to the usual employee-protection conditions.

Average Prices Stocks and Bonds

	Feb. 10	Last week	Last year
Average price of 20 representative railway stocks	46.06	48.65	52.86
Average price of 20 representative railway bonds	86.25	86.62	93.35

Dividends Declared

Chestnut Hill. — 75¢, quarterly, payable March 4 to holders of record February 20.

Chicago, South Shore & South Bend.—25¢, quarterly, payable March 15 to holders of record March 1.

Delaware & Bound Brook.—50¢, quarterly, payable February 20 to holders of record February 13.

Minneapolis & St. Louis.—irregular, 25¢, payable March 10 to holders of record February 27.

North Pennsylvania.—$1.00, quarterly, payable February 25 to holders of record February 18.

Rutland & Whitehall.—$1.05, quarterly, payable February 15 to holders of record January 31.

ABANDONMENTS

Chesapeake & Ohio.—Examiner A. G. Nye has recommended in a proposed report that Division 4 of the Interstate Commerce Commission authorize this road to abandon its ferry operations across the Ohio River between New Richmond, Ky., and New Richmond, Ohio, approximately one mile. According to the proposed report, there are no indications that rail traffic which formerly used the ferry will be restored. The examiner would have the commission attach the usual employee-protection conditions to the certificate authorizing the abandonment.

Southern.—This road has applied to the Interstate Commerce Commission for authority to abandon operations over those portions of the Atlantic & Danville between West Norfolk, Va., and Jeffress, approximately 140.5 miles, and between Clarksville Junction and Danville, approximately 62.7 miles. Both segments have been operated by the Southern under an 1899 lease, which ex-

pires July 1, 1949. The applicant told the commission that its operations over the A. & D. have been unprofitable for a number of years and have imposed a "serious drain" on the Southern's revenue from its other lines. Noting that it has other entrances to Norfolk and Danville, the Southern said that "those important centers" will not be deprived of service by it if the present application is approved.

The Southern also advised the commission that a controversry exists with respect to the condition in which the properties of the A. & D. must be restored to the latter by the lessee. In order to obtain a determination of the controversy prior to the expiration of the lease, it said, the A. & D. has brought action against the Southern in the Circuit Court of Norfolk County, in which it said the lessor seeks a declaratory judgment as to the construction of the restitution provisions of the lease and the property rights and obligations of the parties thereunder.

"Since the applicant's restitution obligations are by express terms of the lease related to and based upon the condition of Atlantic's properties at the time when they shall revert to the possession of Atlantic, such obligations cannot be measured or determined unless or until the date of such reversion shall be known," the Southern said, adding that such a date cannot be known until the commission has acted upon the present application and determined that the applicant shall be allowed to abandon its operation of the A. & D.'s properties at the expiration of the lease.

CONSTRUCTION

Baltimore & Ohio. — This road has awarded a contract to the Minton Construction Company, Cleveland, Ohio, for the construction of an office building in the yard at Lorain, Ohio. The estimated cost of the project is $45,000.

Chicago & North Western.—This road is constructing a plant for the treatment of enginehouse waste, including oil, at its Chase Yard enginehouse in Milwaukee, Wis., at a cost of $27,500. The equipment is being furnished by the Gale Oil Separator Company at New York and the installation work is being performed by Henry Danischefsky, contractor of Milwaukee, Wis.

The North Western and the Chicago, Milwaukee, St. Paul & Pacific have awarded a $30,000 contract jointly to Robert L. Reisinger & Co. of Milwaukee, for the construction of a masonry one-story building, 37 ft. by 51 ft., for use as a yard office and welfare building by the railroads' employees on the Menominee Belt Line.

Chesapeake & Ohio.—Acting upon a petition filed by the Norfolk & Western, the Interstate Commerce Commission has postponed, pending further order, the effective date of its December 31, 1947, order in the Finance Docket No. 15665 proceeding, wherein it authorized this road to construct an extension to its Trace Fork Sub-Division from a point near Holden, W. Va., to a point on the right fork of Trace Fork of Pigeon Creek, approximately 5.9 miles. The purposes of the extension is to serve a new coal tipple. The N. & W. asked that the proceeding be reopened, reargued and reconsidered and that the effective date of the order be postponed. As reported in *Railway Age* of January 17, page 62, the N. & W. opposed the extension on the basis of a contention that it would invade territory directly tributary to it. It said it failed to file an application for authority to construct a line of its own in the same territory, because, in its opinion, such a line would be exempt from the Interstate Commerce Act's certificate requirements as a spur track serving a single shipper in teritory exclusively tributary to the N. & W. The commission, however, ruled at the time that the construction of a line to serve the new tipple by either the C. & O. or N. & W. would require a certificate.

Great Northern.—This road has awarded a contract to Morrison-Knudsen Company, Inc., of Seattle, Wash., for the bulk of construction work involved in a $1,000,000 relocation project in the Cascade mountains 46 mi. west of Wenatchee, Wash. The project involves the construction of 4,331 ft. of new line, including a 700-ft. tunnel and a 650-ft. bridge across Nason creek. The Seattle firm will perform the grading, drive the tunnel and place the bridge foundations, with work beginning as soon as weather permits. Separate bids will cover steel for the bridge and its erection, it was stated.

The new line segment will be 302 ft. shorter than the old, and have only one curve of four deg., compared with six curves having a total of 220 deg. of curvature in the old segment. The grade will be 2.09 per cent, whereas the present grade is 2.2 per cent. It is expected that two years will be required to complete the project.

Louisville & Nashville.—Division 4 of the Interstate Commerce Commission has authorized this road to construct a 5.9-mile line extending easterly and southerly from a connection with the L. & N.'s so-called Leatherwood Creek branch near Jim Hill, Ky. The construction will permit the immediate development of coal deposits. Construction of the segment is estimated to cost $993,000 and will be financed with funds available in the applicant's treasury.

Norfolk & Western. — This road has asked the Interstate Commerce Commission to authorize the construction by it of an extension to its so-called Gilbert branch, extending approximately 5.9-mi. from a point near Wharncliffe, W. Va., to a point on Horsepan Creek. The applicant advised the commission that the United States Coal & Coke Co. has requested the extension in order to facilitate the development of large bituminous coal deposits. As noted in *Railway Age* of January 24, page 64, commission authority to extend a line into the same territory also is sought by the Chesapeake & Ohio.

Reading.—This road has awarded a contract to the J. E. Brenneman Company, Philadelphia, Pa., for the repairing of Piers D and H at Port Richmond, Philadelphia, at an estimated cost of $25,000.

RAILWAY OFFICERS

EXECUTIVE

J. Frank Doolan, whose appointment as vice-president in charge of operation, maintenance and engineering of the New York, New Haven & Hartford at New Haven, Conn., was reported in the *Railway Age* of February 7, was born at New Haven on January 22, 1889. He attended St. Francis Parochial school, Hillhouse high school and Butler Business College, entering railroad service in December, 1904, as yard clerk with the New Haven. He became crew

J. Frank Doolan

dispatcher on July 1, 1909; train rules examiner on September 1, 1914; division chief clerk on May 1, 1917; assistant trainmaster on May 1, 1918; trainmaster on January 15, 1920; terminal trainmaster on August 15, 1920; assistant superintendent on June 1, 1925; acting superintendent on March 1, 1933; assistant superintendent on November 1, 1933; and division superintendent on December 1, 1934. Mr. Doolan was appointed operating assistant to vice-president on October 15, 1935, and became

assistant to trustees in June, 1946, subsequently being appointed assistant to president, which position he held until his recent appointment as vice-president.

F. V. Koval, whose promotion to assistant to the president, in charge of public relations, of the Chicago & North Western, at Chicago, was reported in *Railway Age* of January 24, was graduated from the University of Illinois in 1933. Mr. Koval subsequently served for seven years as manager of the Howard G. Mayer public relations firm

F. V. Koval

at Chicago before joining the North Western in 1943 as publicity manager. He was advanced to advertising and publicity manager in 1946, the position he held at the time of his recent promotion.

S. L. Wright, executive general agent of the Texas & Pacific, at Dallas, Tex., will become assistant to the president at New Orleans, La., on March 1, succeeding to the duties of **C. D. Johnson,** who will retire on March 31, after more than 52 years of service with the company.

F. H. Knickerbocker, whose retirement as executive assistant to the president of the Union Pacific, at Los Angeles, Cal., and Salt Lake City, Utah, was reported in the *Railway Age* of January 24, was born on December 10, 1875, at Chicago. He began his railroad career in 1897 as a stenographer in the freight department at Salt Lake City, and two years later was promoted to secretary to E. E. Calvin, then general superintendent, but who later became president of the U. P. Mr. Knickerbocker was advanced in 1902 to secretary to vice-president and general manager, becoming executive assistant to vice-president and general manager in 1910. In 1915 he became general superintendent of the Oregon Short Line (now part of the U. P.), and in 1922 he was appointed general manager of the Alaska Steamship Company at Seattle, Wash. In connection with the latter post, Mr. Knickerbocker was also general manager of the Copper River & Northwestern, running from Cordova, Alaska, to Kennecott. He returned to the U. P. in 1924 as general manager at Los Angeles, serving there until 1937, when he became assistant to the president at Seattle and Portland, Ore. His next post was that of general manager at Salt Lake City, followed in 1941 by his appointment as executive assistant to the president, the position he held at the time of his retirement.

B. S. Sines, superintendent of the Southern Pacific at Ogden, Utah, has been appointed executive representative at San Francisco, Cal., and is succeeded by **F. E. Kalbaugh,** superintendent of transportation at San Francisco. A photograph of Mr. Kalbaugh and a sketch of his career appeared in the *Railway Age* of August 16, 1947, in connection with his appointment to the latter position.

FINANCIAL, LEGAL and ACCOUNTING

T. A. Graham, whose election as general auditor of the Chicago, Rock Island & Pacific, at Chicago, was reported in *Railway Age* of January 10, was born at Philadelphia, Pa., on May 11, 1893, and attended the London Collegiate Institute, London, Ont., for two years and the Westervelt Business College at London for six months. He entered railway service in 1914 as a clerk in the accounting department of the Rock Island at Chicago, and, with the exception of military service from September, 1917, to January, 1919, has remained

T. A. Graham

continuously in the service of the Rock Island. In 1922 he was promoted to accountant, and in 1931 he was advanced to chief clerk to the general auditor. Mr. Graham became assistant general auditor in 1941, and was serving in that position at the time of his election as general auditor.

R. M. Sutton, auditor of disbursements of the Union Pacific, at Omaha, Neb., has been promoted to assistant general auditor at that point. He is succeeded by **E. M. Kerrigan,** auditor of miscellaneous accounts, who in turn is succeeded by **B. D. Landau,** chief clerk of miscellaneous accounts.

Ernest E. Exon, assistant to real estate and tax agent of the New York Central at Cincinnati, Ohio, has been promoted to real estate and tax agent at that point, succeeding **Walter Ray Gibbons,** who has retired.

T. O. Broker, whose appointment as assistant general counsel of the Lehigh Valley at New York was reported in *Railway Age* of January 10, was born in Brooklyn, N. Y., on March 22, 1915, and received his education at Dumont (N. J.) high school, Wesleyan University and Cornell Law School, from which he was graduated in 1939. Mr. Broker was associated with McCarter,

T. O. Broker

English & Studer, Newark, N. J., before entering the service of the Lehigh Valley's legal department at New York on February 1, 1941. During World War II he served with the antiaircraft artillery, Transportation Corps and in the judge advocate general's department, being placed on inactive duty as captain on July 13, 1946.

Sherman V. Reeves, assistant to general auditor of the Atchison, Topeka & Santa Fe has been promoted to assistant general auditor, with headquarters as before at Chicago.

H. S. Drumheller has been elected secretary and assistant treasurer of the Lehigh & New England, succeeding **Glenn O. Kidd,** resigned. The position of chief clerk to the president has been abolished, however, Mr. Drumheller will continue to assist the president as heretofore. **G. E. Smell** has been elected treasurer and assistant secretary, succeeding **George Craig,** resigned. The treasurer will be responsible for functions heretofore the responsibility of the cashier and paymaster, which positions have been abolished. **W. J. Hess** succeeds **John C. Bolinger, Jr.,** as assistant secretary and also succeeds **Vernon T. Boyles** as assistant treasurer. All of the above will have their headquarters at Bethlehem, Pa.

OPERATING

D. F. Wengert, whose promotion to division superintendent of the Union Pacific, with headquarters at Los Angeles, Cal., was reported in *Railway Age* of December 27, 1947, was born on September 14, 1905, at Austin, Minn. He entered the service of the U. P. in 1924 as a brakeman at Los Angeles, and was transferred to Las Vegas in 1934. He was promoted to conductor at the latter point in 1937, and two

D. F. Wengert

years later became trainmaster there. In 1943 Mr. Wengert went to Salt Lake City, Utah, as terminal superintendent of the Utah division, returning to Las Vegas in 1945 as assistant superintendent. His next move was back to Salt Lake City in April, 1946, to act as superintendent of the Utah division, which post he held until October of that year, when he again returned to Las Vegas as assistant superintendent. Mr. Wengert was serving in the latter capacity at the time of his recent promotion.

F. A. Roberson, trainmaster of the Missouri Pacific at Concordia, Kans., has been promoted to assistant superintendent at Atchison, Kans., succeeding **C. A. Hughes**, who has been appointed division trainmaster at that point. **D. E. Walker** has been appointed trainmaster at Concordia succeeding Mr. Roberson. **H. K. Stephens** has been appointed trainmaster of the Kansas City terminal division, with headquarters at Kansas City, Mo.

C. P. Cahill, assistant general manager of the Chicago, Rock Island & Pacific, at El Reno, Okla., has been appointed assistant to vice-president — operation, with headquarters at Kansas City, Mo. Succeeding Mr. Cahill is **R. E. Johnson,** division superintendent at Kansas City, who is replaced by **Robert H. Spicer,** formerly superintendent of the road's Des Moines (Iowa) division.

Cyril M. Johnke, assistant trainmaster of the Lehigh Valley at Sayre, Pa., has been promoted to trainmaster at Wilkes-Barre, Pa., succeeding **George M. Leilich,** who has been transferred to Jersey City, N. J.

L. E. Hilsabeck has been appointed superintendent of car department of the Chicago Great Western, with headquarters at Oelwein, Iowa, succeeding **G. P. Hoffman,** resigned.

P. D. Robinson, assistant superintendent of the Southern Pacific at Bakersfield, Cal., has been promoted to superintendent of transportation at San Francisco, Cal., succeeding **F. E. Kalbaugh,** who has been appointed superintendent at Ogden, Utah.

Hugh J. Phillips, engineer maintenance of way of the New York, Ontario & Western, has been promoted to general manager, with headquarters as before at Middletown, N. Y. **R. F. Bauman** has been appointed assistant to the general manager at Middletown.

P. G. Shepherd, trainmaster of the Chesapeake & Ohio at Cheviot, Ohio, has been appointed assistant superintendent of the Hinton division, with headquarters at Hinton, W. Va., succeeding **K. R. Ketcham,** whose promotion to superintendent of the Hinton division was reported in the *Railway Age* of January 31, page 278. **T. H. Paul,** assistant trainmaster at Holden, W. Va., has been promoted to trainmaster at Peach Creek, W. Va., succeeding **E. C. St. George,** who has been transferred to Cheviot to succeed Mr. Shepherd.

John H. Martin has been appointed assistant manager, stations and transfers of the New York, New Haven & Hartford at New Haven, Conn. **Eric P. Smith** has been appointed assistant to general merchandise manager at New Haven. **C. F. Shanley** has been appointed district merchandise manager at New York and **R. C. Woodmansee** has been appointed district merchandise manager at Boston, Mass.

W. E. M. Neal, whose retirement as superintendent of the Southern's Knoxville and Augusta division at Knoxville, Tenn., was reported in the *Railway Age* of January 17, was born at Knoxville on January 4, 1878, and joined the Southern in that city in 1895 as a stenographer-clerk to the superintendent. He was promoted to local freight agent in 1896 and to trainmaster in 1906. Mr. Neal was further advanced to superintendent in September, 1927, which position he held at the time of his retirement.

V. W. Smith, whose promotion to general superintendent of the Union Pacific, at Salt Lake City, Utah, was reported in the *Railway Age* of December 27, 1947, was born at Glasgow, Mo., on May 24, 1894. He entered railroad service in 1912 as a brakeman for the U. P., subsequently serving as conductor, traveling conductor and trainmaster at Salt Lake City. In 1943 he was advanced to assistant superintendent at Las Vegas, Nev., and in 1945 became superintendent at Salt Lake City. He was appointed superintendent at Los Angeles, Cal., in 1946, which position he held until his recent appointment.

TRAFFIC

William A. Grove, whose appointment as assistant freight traffic manager of the Lehigh Valley at New York was reported in *Railway Age* of January 10, was born at Norristown, Pa., on August 9, 1897. He received his schooling at Northeast high school, Philadelphia, Pa., and the Wharton School of Finance and Commerce, University of Pennsylvania. Mr. Grove started his railroad career with the Central of New Jersey at Philadelphia, later going with the Reading and the Grand Trunk-Canadian National, before entering the U. S. Navy in 1918. Upon his release from the service he spent some time with the Philadelphia Rapid Transit Company and the Grand Trunk-Canadian National before going with the

William A. Grove

Lehigh Valley at Philadelphia as commercial agent in 1925. Mr. Grove served successively as district freight agent at Philadelphia, division freight agent at Newark, assistant to freight traffic manager at New York, city freight agent at New York and assistant Eastern freight traffic manager at New York, holding the latter position at the time of his recent appointment as assistant freight traffic manager.

C. D. Cook, live stock agent of the Chicago & North Western, with headquarters at Omaha, Neb., has been appointed general live stock agent at Chicago, succeeding **C. H. McNie,** who has retired after a railway career of more than 46 years.

The Chicago Great Western has opened a traffic office at Salt Lake City, Utah, with **V. T. Lewis,** formerly traffic agent, as general agent.

Frank H. Smith, division freight and passenger agent of the Atchison, Topeka & Santa Fe, with headquarters at Stockton, Cal., has been appointed acting division freight agent at Fresno, Cal.,

News Department continued on next left-hand page

a unit of POWER

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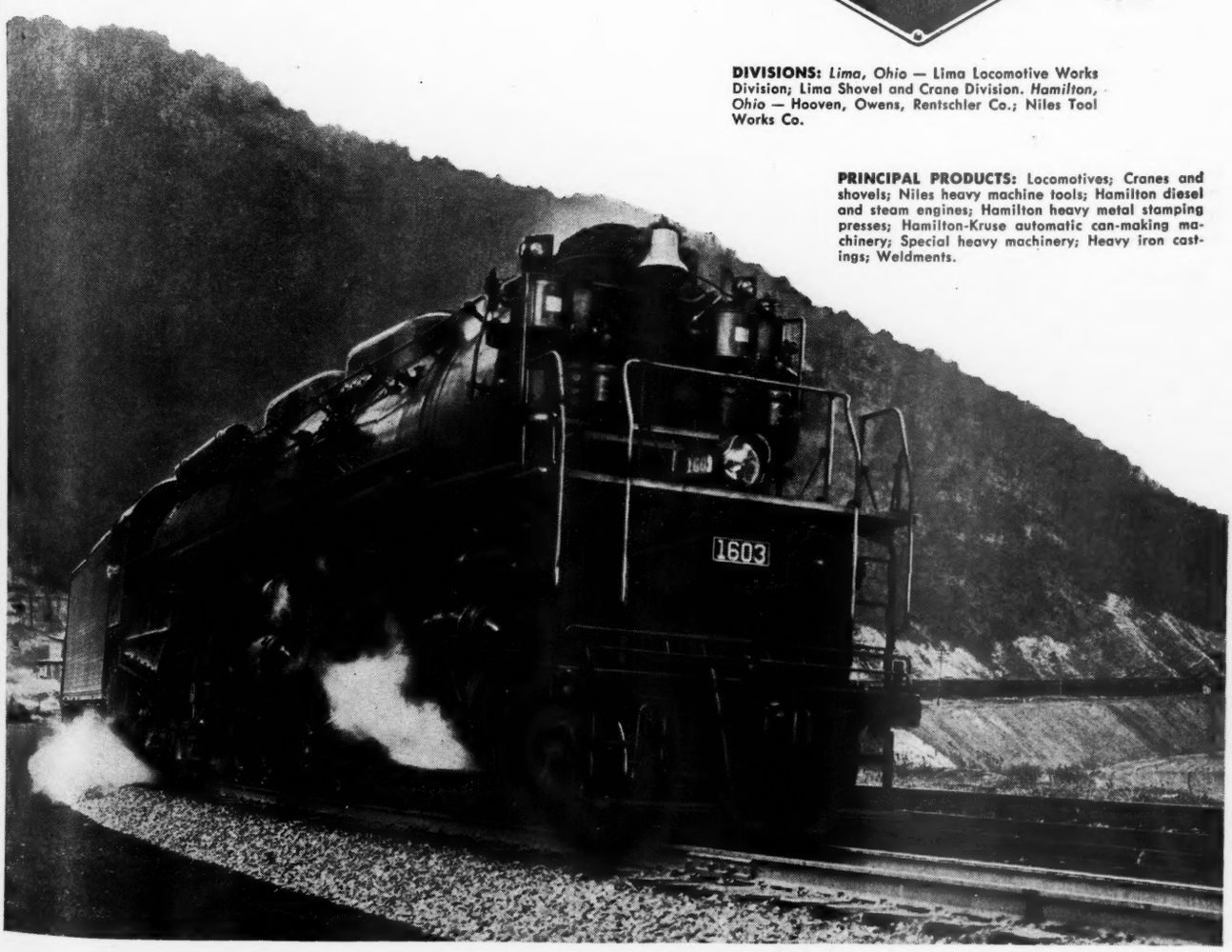
LIMA HAMILTON CORPORATION

DIVISIONS: *Lima, Ohio* — Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio* — Hooven, Owens, Rentschler Co.; Niles Tool Works Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.



succeeding to the duties of **G. E. Harrison**, who is ill. Mr. Smith is succeeded by **T. C. Osborn**, general agent at Seattle, Wash., who is replaced by **Harry H. Tipple**.

Following the recent election of **E. W. Soergel** as vice-president in charge of traffic of the Chicago, Milwaukee, St. Paul & Pacific (announced in the *Railway Age* of January 31), the following changes have taken place in the road's freight traffic department at Chicago: **P. H. Draver**, assistant general freight agent at Milwaukee, Wis., promoted to general freight traffic manager; **S. G. Grace**, assistant freight traffic manager at Chicago, promoted to freight traffic manager; **H. S. Zane**, also assistant freight traffic manager at Chicago, promoted to freight traffic manager; and **J. O. McIlyar**, assistant to vice-president at Chicago, promoted to assistant freight traffic manager.

L. H. Robbins has been appointed commissioner of the Chicago, Milwaukee, St. Paul & Pacific's agricultural and mineral development department at Chicago, succeeding the late **R. W. Reynolds**. Mr. Robbins is succeeded as assistant commissioner by **L. B. Horton**, general development agent.

Paul J. Murphy, whose appointment as general freight agent—rates and divisions of the Pittsburgh & West Virginia at Pittsburgh, Pa., was reported in the *Railway Age* of January 3, was born on December 15, 1904, at Pittsburgh. Mr. Murphy entered railroad service on August 24, 1923, with the Pittsburgh & West Virginia as clerk, becoming chief clerk on April 1, 1940. He was appointed assistant general freight agent on June 1, 1945, which position he held until his recent promotion to general freight agent—rates and divisions.

Roland E. Courtney, chief clerk to the executive general agent of the Southern at Birmingham, Ala., has been promoted to division freight and passenger agent at Selma, Ala., succeeding **W. E. Shine, Jr.**, who has been granted a leave of absence because of illness.

C. B. Kincaid, general passenger agent of the Chesapeake & Ohio at Richmond, Va., has been transferred to Huntington, W. Va. **E. L. Davis** has been appointed general agent, passenger department, at Cincinnati, Ohio. **J. J. Miller** has been appointed manager of special services, with headquarters at Huntington.

Walter Scott Curlett, assistant to the chairman and tariff publishing agent of the Trunk Line Association at New York, has retired because of ill health. **C. W. Boin** has been appointed tariff publishing agent.

Robert William Bramwell, whose appointment as general traffic manager of the Pittsburgh & West Virginia at Pittsburgh, Pa., was reported in the *Railway Age* of January 3, was born at Toledo, Ohio, on October 18, 1895. Mr. Bramwell entered railroad service on July 1, 1916, with the Ann Arbor, with which road he served until November 30, 1921, when he went with the Cleveland, Cincinnati, Chicago & St. Louis. He then served with the Michigan Central from July 1, 1922, to May

Robert William Bramwell

16, 1927, going with the Pittsburgh & West Virginia on the latter date as assistant general agent at Detroit, Mich. He became assistant to vice-president of the P. & W. Va. at Pittsburgh on March 1, 1931, becoming general Eastern agent at New York three months later. On February 15, 1933, he was appointed traffic manager of the P. & W. Va. at Pittsburgh and on September 1, 1934, he was transferred to Detroit, where he remained until his recent appointment as general traffic manager at Pittsburgh.

Henry J. Reis, whose appointment as traffic manager-rates and divisions of the Pittsburgh & West Virginia at Pittsburgh, Pa., was reported in the *Railway Age* of January 3, was born on October 9, 1899, at Pittsburgh. Mr.

Henry J. Reis

Reis attended Allegheny high school and entered railroad service on July 19, 1920, with the Pittsburgh & West Virginia as a clerk, becoming chief clerk on August 1, 1933. He was appointed assistant general freight agent on April 1, 1940, and became general freight agent on July 1, 1944, which position he held at the time of his recent promotion to traffic manager.

ENGINEERING and SIGNALING

Kenneth L. Moriarty, whose promotion to chief engineer of the Denver & Rio Grande Western, with headquarters at Denver, Colo., was reported in the *Railway Age* of January 17, was born on November 18, 1896, at Joliet, Ill. Mr. Moriarty began his railroad career in the engineering department of the Chicago & Great Western in 1917, and subsequently advanced through various positions to that of assistant engineer in the maintenance of way department.

Kenneth L. Moriarty

He joined the Rio Grande in 1924 as division engineer at Gunnison, Colo., and later held that post at other points on the railroad. He was appointed roadmaster at Green River, Utah, in 1933 and trainmaster at Glenwood Springs, Colo., in 1935. Mr. Moriarty's next position was that of assistant superintendent at Grand Junction, Colo., which he held until his promotion to division superintendent at that point in 1939. He was transferred to Salt Lake City, Utah, in 1943, and was promoted to assistant chief engineer at Denver on February 1, 1946. Mr. Moriarty was serving in the latter post at the time of his recent promotion to chief engineer.

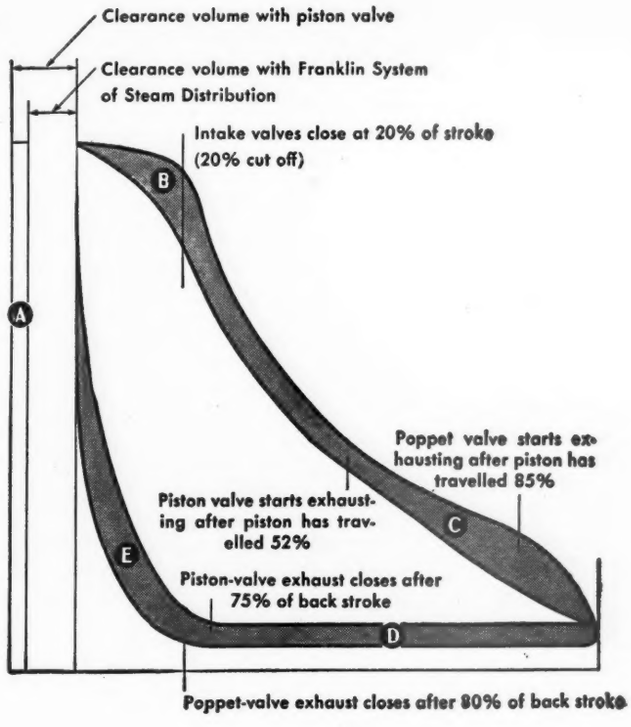
C. H. Hardwick, engineer maintenance of way of the Chicago, Rock Island & Pacific at Chicago, has been appointed district maintenance engineer, with headquarters at Des Moines, Iowa.

MECHANICAL

M. P. Nunnally, whose promotion to assistant superintendent of motive power of the St. Louis Southwestern, at Pine Bluff, Ark., was reported in *Railway Age* of January 17, was born at Richmond, Va., on March 22, 1898, and

News Department continued on next left-hand page

MORE POWER FROM THE BOILER



A With reduced clearance volume (space between intake valves and piston at end of stroke) more economical use is made of the steam admitted to cylinders.

B With larger steam flow areas and faster valve openings, steam enters the cylinder with smaller pressure drop. This increases the amount of steam admitted for a given cut-off — increases the power output for a given cut-off, or permits the use of a shorter and more economical cut-off for a given power output.

C With late release, the expansion period is increased substantially. This increases efficiency by increasing the amount of heat transformed into mechanical work.

D With late release and large exhaust areas, the back pressure is lower, which again increases the power obtained from a given amount of steam.

E With low back pressure, and late compression, excessive pressures at the end of the back stroke are avoided. Economical short cut-offs can be used without severe reactions on the running gear.

WITH

THE FRANKLIN SYSTEM OF STEAM DISTRIBUTION

These indicator cards represent a locomotive equipped with the Franklin System of Steam Distribution and a locomotive, identical in all other respects, equipped with piston valves. Both cards are based on high-speed operation at 20% cut-off.

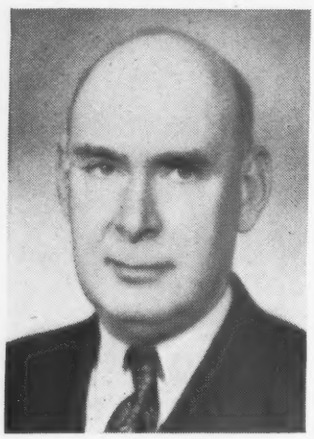
As can be seen, the engine equipped with poppet valves can utilize full boiler capacity because of the larger steam flow areas and the faster opening and closing of valves. It develops more horsepower per pound of steam. It uses less fuel and water to deliver a given horsepower output.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

began his railroad career as a machinist apprentice with the Southern in 1916. He later became machinist and shop draftsman, and in 1922 joined the engineering department of the American Locomotive Company. During the following year he became employed in the engineering department of the Clinchfield, remaining with that road until 1926, when he was appointed chief draftsman of the Cotton Belt. He was



M. P. Nunnally

appointed acting mechanical engineer in 1942 and mechanical engineer in 1943, and was holding the latter position at the time of his current promotion.

E. F. Weber, whose retirement as general superintendent of automotive equipment of the Burlington Lines at Chicago was reported in the *Railway Age* of January 17, was born on November 6, 1877, at Creston, Iowa. Mr. Weber began his career with the Burlington as a boilermaker apprentice at Creston in 1892, at the age of 15. He left the road in 1896 to engage in other pursuits, but during the period that he was out of railroad service, he completed a course in mechanical engineering with the International Correspondence School. Rejoining the railroad in 1904, he became a tool room foreman and draftsman at Creston, and was subsequently transferred to the engineering department at Chicago, where he was assigned to supervise th operation of internal combustion engines used in the water service department and to improve the operation and maintenance of section-type motor cars. Mr. Weber later held positions successively as special mechanic on the general manager's staff, assistant engineer and superintendent of automotive service before attaining the position he held at the time of his retirement.

SPECIAL

John W. Cox, assistant personnel officer of the Southern at Washington, D. C., has been promoted to personnel officer, succeeding **R. P. Travis,** who will retire on February 16, after more than 25 years of service. **Julian M. Ford,** trainmaster at Richmond, Va., has been appointed assistant to personnel officer at Washington, to succeed **Lawson G. Tolleson,** who has been promoted to assistant personnel officer at Washington.

C. R. Mackenzie, superintendent of pensions of the Canadian National at Montreal, Que., since 1932, retired on February 3 after half a century of railway service. **E. B. Hawken,** assistant secretary and staff registrar, has been appointed superintendent of pensions and staff registrar at Montreal.

Walter W. Grove, whose appointment as general manager of the Railway Express Agency's Mid-West department at Kansas City, Mo., was reported in the *Railway Age* of January 31, has devoted most of his business life to the express service, principally in the southwestern part of the country. His earlier posts with the company includes that of general agent at Dallas, Tex., and super-

Walter W. Grove

intendent of the Western Texas division at San Antonio, Tex. He was transferred in 1939 to Dallas as superintendent of the Northern Texas-Louisiana division, the position he held at the time of his recent appointment.

PURCHASES and STORES

Walter R. Owen, whose re-appointment as purchasing agent of the reorganized Chicago, Rock Island & Pacific, at Chicago, was reported in the *Railway Age* of January 17, retired on February 1. A photograph and biography of Mr. Owen were published in the *Railway Age* of February 7, page 324.

G. W. Alexander, whose appointment as purchasing agent of the Central of Georgia at Savannah, Ga., was reported in the *Railway Age* of January 24, was born at Senoia, Ga., on February 27, 1886. Mr. Alexander entered railroad service in 1895 as clerk in the ticket agent's office of the Central of Georgia, transferring to the store department at Cedartown, Ga., a year later. He was appointed clerk at Macon, Ga., in 1897, and became division storekeeper in 1912, which position he held at Cedartown, Savannah and Macon, successively. Mr. Alexander became assistant to regional

G. W. Alexander

purchasing commissioner, U.S.R.A. in 1917, and was appointed general storekeeper of the C. of G. in 1918, which position he held until his recent appointment as purchasing agent.

OBITUARY

C. A. Pinkerton, president of the Detroit & Mackinac at Tawas City, Mich., whose death was reported in the *Railway Age* of January 31, was born on February 11, 1880, at Saginaw Mich., and began his railroad career with the Flint & Pere Marquette (now part of the Chesapeake & Ohio) in 1897. Mr. Pinkerton joined the D. & M. in 1899 as a clerk in the car service department and was advanced to superintendent of car service in 1908. He became superintendent of transportation in 1918, general manager in 1933, and vice-president and general manager in 1935, and was elected president and general manager in 1941. He relinquished his duties as general manager to his son, Charles A. Pinkerton, Jr., in September, 1946, retaining the post of president until his death.

Benjamin A. Dousman, who retired in 1944 as an accountant of the Chicago, Milwaukee, St. Paul & Pacific at Chicago, and was at one time general auditor of the railroad, died in the West Suburban Hospital in Oak Park, Ill., on February 3.

E. L. Pardee, who retired as passenger traffic manager of the Chicago & North Western at Chicago on June 30, 1947, died on February 5 at St. Paul, Minn., at the age of 70.

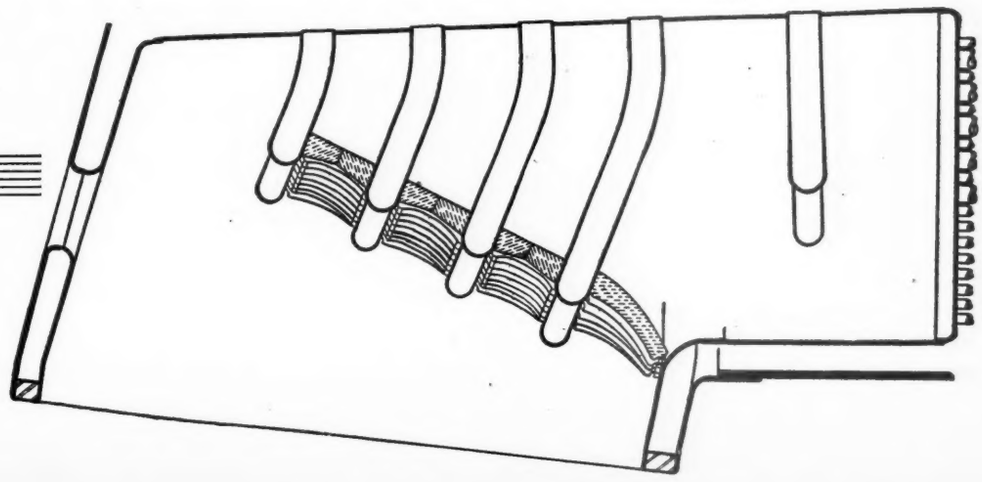
Edward A. Chittenden, who retired in December, 1945, as superintendent of the Railway Express Agency's commercial division at New York, died on February 7 at White Plains (N. Y.) hospital, after a protracted illness, at the age of 73.

Table of Revenues and Expenses appears on the next left-hand page.

Faster Evaporation

Located right in the path of the hot gases, Security Circulators are very effective elements for speeding evaporation. There is a continuous circulation of water from the side water-legs, through the circulators, over the top of the crown sheet.

At the same time the Security Circulators provide the most satisfactory type of support for a 100% brick arch.



Typical Installation in Coal-Fired Locomotive

AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

SECURITY CIRCULATOR DIVISION

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1947

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income 1947	Net railway operating income 1946
Akron, Canton & Youngstown	Dec.	171	$455,176	$85	$480,209	$60,228	$45,317	$38,130	$143,261	$328,147	68.3	$152,062	$63,575	$72,149	$54,260
	12 mos.	171	5,022,403	1,077	5,261,890	832,739	524,739	310,484	1,608,859	3,548,478	67.4	1,713,412	685,270	829,821	413,813
Atchison, Topeka & Santa Fe	Dec.	13,104	35,514,573	4,514,179	47,053,291	6,635,344	7,762,250	885,407	15,227,940	32,254,861	68.6	14,798,430	8,316,098	6,420,839	4,269,652
	12 mos.	13,106	370,486,524	50,236,084	462,699,237	67,490,237	84,788,535	9,875,422	157,775,031	339,217,606	73.3	123,481,631	68,082,676	54,302,422	45,554,082
Atlanta & St. Andrews Bay	Dec.	82	144,602	1,381	152,358	—6,979	21,947	5,644	46,334	71,824	47.1	80,534	25,386	49,940	45,709
	12 mos.	82	1,738,492	16,983	1,819,378	179,680	193,349	70,678	506,268	1,059,343	58.2	760,035	320,325	329,112	247,252
Atlanta & West Point	Dec.	93	271,907	51,797	392,687	35,466	47,720	13,519	185,471	305,197	77.7	87,490	—23,653	87,566	—51,056
	12 mos.	93	3,032,281	554,363	4,072,366	485,396	580,186	157,348	2,020,600	3,497,963	85.9	574,403	222,451	87,518	82,950
Western of Alabama	Dec.	133	217,029	51,751	329,941	38,117	54,706	13,129	154,239	281,346	85.3	48,595	32,321	22,304	—21,472
	12 mos.	133	3,010,270	574,625	3,993,220	473,068	668,578	151,546	1,756,800	3,274,732	82.0	718,488	447,463	262,853	264,094
Atlantic Coast Line	Dec.	5,572	9,249,610	1,879,300	12,737,722	1,933,275	1,636,199	341,367	5,243,188	9,709,915	76.2	3,027,807	1,250,000	1,475,931	1,990,096
	12 mos.	5,573	95,987,384	21,990,538	128,429,923	26,592,605	22,339,943	3,266,618	54,463,656	112,461,791	87.6	15,968,132	10,450,000	3,049,642	5,016,954
Charleston & Western Carolina	Dec.	343	386,135	3,849	403,960	45,613	70,943	14,012	166,864	307,073	76.0	96,887	Cr. 20,000	113,768	93,579
	12 mos.	343	4,340,538	46,507	4,522,897	809,340	899,662	157,656	1,826,704	3,806,212	84.2	716,685	280,000	360,680	13,080
Baltimore & Ohio	Dec.	6,191	27,714,163	2,495,316	32,856,136	3,001,021	6,585,514	748,456	15,157,087	26,929,370	82.0	5,926,766	3,007,987	2,742,241	20,887,845
	12 mos.	6,193	313,964,755	24,342,611	360,294,995	44,427,397	76,484,170	8,206,109	155,853,534	300,377,312	83.4	59,917,683	26,561,916	29,099,949	25,909,109
Staten Island Rapid Transit	Dec.	29	163,342	103,159	272,061	66,342	45,049	1,573	166,288	305,785	112.4	—33,724	42,659	—101,385	43,915
	12 mos.	29	1,782,654	1,297,933	3,229,165	598,203	446,818	19,546	1,819,044	3,178,586	98.4	50,579	496,931	—671,400	—257,156
Bangor & Aroostook	Dec.	602	1,041,312	58,703	1,168,111	9,493	218,757	9,951	364,946	639,738	54.8	528,373	272,403	262,282	440,942
	12 mos.	602	11,116,420	628,462	12,135,678	2,499,808	2,195,254	96,525	3,669,605	8,943,986	73.7	3,191,692	1,634,582	1,655,920	968,442
Bessemer & Lake Erie	Dec.	214	1,282,506	1,938	1,308,438	116,027	500,959	20,597	485,681	1,197,183	91.5	111,255	310,670	20,536	406,679
	12 mos.	214	22,682,495	18,695	22,891,463	1,653,141	5,512,966	213,607	5,119,695	13,150,818	57.4	9,740,645	5,610,236	7,580,819	4,683,886
Boston & Maine	Dec.	1,757	5,663,438	1,257,686	7,884,395	1,239,584	1,065,089	99,885	3,349,500	6,054,203	76.8	1,830,192	860,285	641,118	787,442
	12 mos.	1,761	61,259,601	15,225,633	84,277,139	13,621,872	12,940,046	1,212,319	35,183,878	66,484,620	78.9	17,792,519	8,271,598	5,930,518	4,496,975
Burlington-Rock Island	Dec.	228	209,920	60,361	297,595	48,236	12,495	4,707	110,042	195,862	65.8	101,733	13,825	28,584	35,693
	12 mos.	228	2,841,950	662,610	3,826,987	525,037	447,827	51,322	1,660,738	2,903,838	75.9	923,149	137,159	185,667	67,714
Cambria & Indiana	Dec.	35	138,197	.....	138,235	21,654	110,370	1,323	40,360	187,669	135.76	—49,434	52,469	16,733	23,072
	12 mos.	35	1,647,822	.....	1,648,375	176,481	1,108,859	8,806	288,920	1,683,809	102.15	—35,434	713,612	460,419	662,213
Canadian Pacific Lines in Maine	Dec.	234	544,347	29,003	600,112	115,916	103,282	4,759	260,212	495,707	82.6	104,405	31,231	2,643	33,633
	12 mos.	234	4,599,799	424,655	5,314,165	1,039,968	856,782	83,877	2,179,548	4,302,144	81.0	1,012,021	301,157	—110,477	—247,210
Canadian Pacific Lines in Vermont	Dec.	90	159,702	15,359	199,120	44,177	35,448	4,627	154,855	245,299	123.2	—46,179	17,216	—113,951	—145,401
	12 mos.	90	1,682,549	220,592	2,145,653	560,530	367,187	58,999	1,664,585	2,724,048	127.0	—578,395	200,133	—1,310,363	—1,374,820
Central of Georgia	Dec.	1,816	2,446,318	259,106	3,169,527	370,465	443,008	99,850	1,486,479	2,562,341	80.8	607,186	302,654	276,559	215,299
	12 mos.	1,816	26,428,518	2,901,469	32,378,264	5,227,309	5,428,500	1,186,107	16,169,327	29,865,257	92.2	2,513,007	3,012,311	—361,985	1,414,057
Central of New Jersey	Dec.	418	2,456,440	534,139	3,298,687	460,658	603,057	49,232	1,994,903	3,281,178	99.5	17,509	468,800	—771,216	2,129,616
	12 mos.	418	28,736,053	5,947,841	37,565,888	5,422,398	6,572,856	613,472	19,572,891	34,165,978	90.9	3,399,910	4,846,928	—4,923,101	—353,528
Central of Pennsylvania	Dec.	213	1,534,484	19,116	1,640,609	138,205	319,416	22,781	557,734	1,080,729	65.9	559,880	85,327	727,733	653,614
	12 mos.	213	17,558,494	221,881	18,209,995	1,597,835	3,453,448	265,461	5,922,803	11,729,707	64.4	6,480,288	816,155	8,076,954	3,082,962
Central of Vermont	Dec.	422	746,549	60,794	878,598	130,202	132,626	20,696	381,467	703,418	80.1	175,180	52,223	89,865	24,547
	12 mos.	422	7,842,549	905,794	9,469,623	1,593,061	1,557,185	150,680	4,113,017	7,822,901	82.6	1,646,722	640,425	439,635	—427,059
Chesapeake & Ohio	Dec.	5,062	24,542,230	1,029,073	27,133,172	4,191,596	5,362,757	757,928	11,027,681	22,814,937	84.1	4,318,235	2,755,140	2,130,811	2,491,204
	12 mos.	5,057	286,418,885	11,970,997	312,953,034	44,821,208	55,944,916	7,369,194	111,686,235	232,668,989	74.4	80,284,045	41,457,382	42,615,152	35,069,648
Chicago & Eastern Illinois	Dec.	909	2,010,644	385,534	2,874,151	190,516	467,546	90,664	1,263,424	2,184,883	76.0	689,269	Cr.1,446,800	1,865,549	1,252,634
	12 mos.	910	21,648,500	3,887,301	28,508,455	3,610,774	5,484,769	971,335	12,665,457	24,293,750	85.2	4,214,705	408,500	2,285,042	—197,214
Chicago & Illinois Midland	Dec.	131	745,231	1,416	792,584	55,836	131,216	31,844	195,087	448,171	56.5	344,413	116,902	232,549	146,752
	12 mos.	131	7,642,276	12,283	8,125,699	1,019,516	1,411,085	288,874	2,139,579	5,232,049	64.4	2,893,650	1,224,821	1,667,558	764,244
Chicago & North Western	Dec.	8,058	11,162,793	2,029,744	15,682,189	1,342,916	2,752,655	285,828	7,059,990	12,244,405	78.1	3,437,784	1,822,957	1,157,663	1,404,028
	12 mos.	8,063	131,795,838	24,677,419	176,281,195	25,336,773	33,249,425	3,404,732	77,505,063	147,815,979	83.9	28,465,216	15,632,100	8,458,006	10,983,790
Chicago, Burlington & Quincy	Dec.	8,867	16,850,472	2,693,748	22,791,248	2,997,869	3,353,089	373,827	7,575,477	15,080,455	66.2	7,710,793	3,882,256	3,103,039	1,381,555
	12 mos.	8,865	181,409,104	19,029,068	221,179,011	32,484,480	29,682,429	4,479,449	75,766,163	149,996,344	67.8	71,182,667	34,407,950	31,780,908	26,991,098
Chicago Great Western	Dec.	1,500	2,573,047	70,803	2,986,156	251,381	370,947	87,690	1,370,358	2,178,877	73.0	807,279	229,390	306,408	1,163,804
	12 mos.	1,500	27,783,361	925,467	31,325,024	4,433,437	4,185,382	980,229	13,963,068	24,613,703	78.6	6,711,321	1,909,276	2,388,828	1,856,096
Chicago, Indianapolis & Louisville	Dec.	541	1,296,764	89,758	1,514,206	199,924	189,115	74,047	592,495	1,133,845	74.9	380,361	82,261	173,232	—134,695
	12 mos.	541	13,709,004	880,036	15,586,377	2,592,113	2,165,175	733,989	6,391,158	12,814,319	82.2	2,772,058	974,874	444,115	—594,943
Chicago, Milwaukee, St. Paul & Pacific	Dec.	10,685	16,824,089	2,023,974	21,729,316	2,130,208	3,550,551	384,303	9,322,328	16,335,745	75.2	5,393,571	2,128,000	2,393,784	1,301,980
	12 mos.	10,713	187,064,309	21,327,973	231,478,568	37,772,609	36,963,419	4,643,072	96,469,711	186,135,168	80.4	45,343,400	21,172,000	16,812,176	13,346,598
Chicago, Rock Island & Pacific	Dec.	7,650	12,702,010	2,032,920	16,823,861	1,770,659	2,426,122	427,589	6,638,133	12,003,503	71.3	4,820,358	2,108,058	2,223,989	1,331,882
	12 mos.	7,651	141,130,526	22,852,894	178,070,614	22,387,519	27,990,200	4,851,360	67,745,167	131,208,606	73.7	46,862,008	17,403,469	21,255,374	16,633,852
Chicago, St. Paul, Minn. & Omaha	Dec.	1,616	2,457,154	233,137	3,064,990	190,544	394,057	55,306	1,451,429	2,201,143	71.8	863,847	214,201	529,732	541,769
	12 mos.	1,616	25,818,145	2,712,837	31,379,285	4,288,215	4,950,316	633,688	14,765,191	25,891,136	82.5	5,488,149	2,369,137	1,625,278	927,556
Clinchfield	Dec.	317	1,724,414	6,936	1,750,579	166,912	263,399	31,047	498,202	990,166	56.6	760,413	173,030	683,874	372,875
	12 mos.	311	17,415,122	77,361	17,643,967	1,504,301	2,891,251	350,403	4,899,161	9,962,933	56.5	7,681,034	1,921,761	6,826,248	4,490,137

Table continued on next left-hand page.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1947—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income 1947	1946
Colorado & Southern	Dec.	745	$1,142,640	$106,457	$1,438,955	$181,055	$160,626	$25,081	$525,973	$945,424	65.7	$493,531	$300,193	$145,087	$5,729
	12 mos.	747	10,332,985	1,218,804	12,767,159	1,934,839	2,124,212	270,892	5,275,306	10,174,191	79.7	2,592,968	1,566,958	699,039	214,343
Ft. Worth & Denver City	Dec.	902	1,130,940	164,587	1,491,188	147,520	159,942	35,885	519,675	927,739	62.2	563,449	180,429	340,542	91,448
	12 mos.	902	11,842,682	1,896,295	14,922,247	2,087,445	1,971,496	412,968	5,237,375	10,489,464	70.3	4,432,783	1,645,702	2,217,621	862,095
Colorado & Wyoming	Dec.	42	185,395	.....	267,410	12,982	23,333	464	81,028	125,499	46.9	141,911	74,789	66,491	24,271
	12 mos.	42	1,305,432	.....	2,131,145	125,865	210,840	9,760	780,778	1,201,249	56.4	929,896	492,794	440,828	257,426
Columbus & Greenville	Dec.	168	162,141	2,019	178,452	46,233	35,367	5,248	47,254	154,266	86.4	24,186	11,112	18,054	—14,554
	12 mos.	168	1,573,563	35,226	1,732,438	461,810	307,360	59,832	632,113	1,653,630	95.5	78,808	149,601	—35,806	—4,116
Delaware & Hudson	Dec.	794	4,165,295	178,125	4,525,503	584,058	994,042	67,662	1,975,322	3,790,996	83.8	734,507	345,262	338,236	317,826
	12 mos.	794	49,076,029	2,396,818	53,088,735	6,762,429	11,248,295	733,808	20,373,281	41,003,246	77.2	12,085,489	6,332,965	5,815,382	4,093,098
Delaware, Lackawanna & Western	Dec.	973	5,633,273	964,615	7,420,183	959,063	1,032,291	135,102	3,460,321	5,815,568	78.4	1,604,615	675,303	868,722	936,138
	12 mos.	973	63,841,614	10,222,558	81,154,430	10,116,053	12,632,180	1,589,505	36,898,419	63,825,738	78.7	17,328,692	8,053,613	8,322,247	5,109,258
Denver & Rio Grande Western	Dec.	2,466	5,096,708	249,823	5,703,854	430,597	890,789	136,427	2,141,217	3,851,907	67.5	1,851,947	1,133,244	877,871	2,922,759
	12 mos.	2,469	52,883,339	3,185,059	58,743,852	6,850,311	10,947,359	1,589,470	21,800,600	43,960,564	74.8	14,783,288	7,098,200	8,330,813	6,324,996
Detroit & Mackinac	Dec.	230	128,420	2,599	143,592	67,756	19,233	1,763	44,704	154,297	107.4	—10,705	Cr. 21,044	4,382	—62,801
	12 mos.	230	1,647,404	21,166	1,809,263	399,153	214,205	16,103	414,356	1,132,818	62.6	676,445	237,392	372,650	182,439
Detroit & Toledo Shore Line	Dec.	50	603,226	.....	605,772	36,904	35,266	13,072	188,864	285,028	47.1	320,744	94,182	93,017	145,666
	12 mos.	50	5,613,835	.....	5,642,787	584,363	428,626	137,026	1,705,383	2,976,589	52.8	2,666,198	810,935	858,721	556,249
Detroit, Toledo & Ironton	Dec.	464	1,113,265	995	1,165,644	114,178	182,971	22,399	345,611	705,661	60.5	459,983	24,408	411,787	175,821
	12 mos.	464	12,461,592	11,137	13,016,059	1,514,097	2,009,183	234,930	3,443,715	7,598,441	58.4	5,417,618	2,037,693	3,127,408	1,854,160
Duluth, Missabe & Iron Range	Dec.	569	554,500	2,809	607,960	431,468	509,798	7,496	704,745	1,713,616	281.9	—1,105,656	Cr. 336,444	—758,084	—231,317
	12 mos.	549	33,889,185	36,868	39,402,970	5,046,853	4,976,620	84,073	11,360,623	22,109,206	56.1	17,293,764	8,249,028	8,952,762	8,668,469
Duluth, Winnipeg & Pacific	Dec.	175	334,633	1,980	348,921	45,287	19,078	5,081	128,096	203,345	58.3	145,576	30,565	65,309	—170,190
	12 mos.	175	3,595,633	20,980	3,686,821	690,195	438,722	38,313	1,478,976	2,714,424	73.6	972,397	321,479	242,984	—420,122
Elgin, Joliet & Eastern	Dec.	391	3,105,346	201	3,680,795	307,931	664,503	25,505	1,683,582	2,807,723	76.3	873,072	277,075	146,465	416,704
	12 mos.	391	32,744,653	323	38,832,747	2,945,777	5,658,939	263,725	15,270,067	25,259,988	65.0	13,572,759	5,415,120	5,162,157	1,600,617
Erie	Dec.	2,229	11,640,053	696,547	13,297,690	1,029,942	2,027,774	302,298	6,191,118	10,159,624	76.4	3,138,066	1,716,843	878,686	2,076,778
	12 mos.	2,229	134,700,741	7,317,128	152,101,382	16,205,461	26,221,912	3,279,142	67,337,470	119,948,839	78.9	32,152,543	14,005,794	11,528,288	7,250,546
Florida East Coast	Dec.	575	1,784,788	595,562	2,715,184	529,556	496,031	66,320	1,153,339	2,393,005	88.1	322,179	Cr.1,236,773	1,399,314	1,772,973
	12 mos.	602	16,897,616	7,586,056	27,054,334	5,641,448	4,881,225	734,837	10,522,104	23,683,284	87.5	3,371,050	551,153	1,544,281	4,291,437
Georgia Railroad	Dec.	326	592,564	36,586	722,981	88,807	98,243	28,453	389,727	633,235	87.6	89,746	47,939	19,203	—178,577
	12 mos.	327	6,987,427	362,219	7,917,093	1,034,517	1,253,112	325,665	3,975,927	6,895,326	87.1	1,021,767	557,402	620,611	—137,838
Georgia & Florida	Dec.	408	192,638	2,431	206,595	57,929	30,264	12,238	92,248	203,523	98.5	3,072	10,977	—19,142	—43,802
	12 mos.	408	2,406,386	28,843	2,512,172	671,779	351,288	146,103	1,072,606	2,354,957	93.7	157,215	190,163	—184,403	—140,209
Grand Trunk Western	Dec.	972	3,463,723	218,550	4,070,665	516,508	677,083	85,467	1,957,428	3,377,835	83.0	692,830	277,059	192,816	402,501
	12 mos.	972	40,055,723	2,331,550	45,550,665	6,716,237	7,650,292	638,720	20,370,292	36,961,666	81.1	8,588,999	3,130,902	3,572,923	—1,711,792
Canadian Nat'l Lines in New England	Dec.	172	164,619	7,103	193,574	51,869	46,919	3,283	135,778	260,942	134.8	—67,368	7,863	—114,991	—100,093
	12 mos.	172	1,886,619	137,003	2,183,674	758,333	450,945	31,297	1,335,637	2,695,622	123.4	—511,948	289,001	—1,167,794	—1,255,470
Great Northern	Dec.	8,333	13,996,981	1,195,205	16,490,180	3,063,503	2,755,078	286,331	7,130,484	13,837,584	83.9	2,652,596	1,363,593	1,189,969	3,406,133
	12 mos.	8,333	164,906,331	13,089,446	193,751,851	32,093,800	31,196,663	3,729,221	69,550,264	143,488,995	74.1	50,262,856	24,486,576	23,815,730	25,040,634
Green Bay & Western	Dec.	224	275,865	38	282,683	8,252	20,988	15,510	99,111	167,807	59.4	114,876	101,420	—186	—15,267
	12 mos.	224	3,053,701	450	3,126,841	708,130	317,477	177,655	1,025,917	2,387,915	76.3	738,926	433,037	185,884	131,208
Gulf, Mobile & Ohio	Dec.	2,904	5,345,960	613,975	6,692,069	1,222,959	1,004,847	212,298	2,299,274	509,501	76.1	1,601,568	587,122	640,837	3,535,097
	12 mos.	2,904	61,033,775	6,787,712	73,330,078	12,777,034	12,194,024	2,385,129	23,957,671	55,224,124	75.3	18,105,954	6,864,778	6,876,002	3,296,171
Illinois Central (System)	Dec.	6,581	17,071,615	2,482,162	22,371,928	3,187,452	3,593,644	364,606	8,547,255	16,643,967	74.4	5,727,961	3,165,819	2,518,951	2,513,945
	12 mos.	6,582	191,739,961	26,010,037	242,154,670	39,622,970	41,825,550	4,259,628	87,864,450	184,150,071	76.0	58,004,599	30,478,386	24,318,396	17,889,905
Illinois Terminal	Dec.	474	831,636	131,326	1,072,864	131,837	111,784	29,613	400,584	708,121	66.0	364,743	158,795	170,514	124,156
	12 mos.	475	9,143,006	1,537,667	11,899,083	1,543,310	1,472,065	328,526	4,229,963	7,976,348	67.0	3,922,735	1,723,249	1,823,433	1,034,968
Kansas City Southern	Dec.	890	2,767,410	121,624	3,205,092	273,012	327,555	91,054	891,205	1,709,069	53.3	1,496,023	554,770	841,271	463,440
	12 mos.	890	31,136,350	1,208,936	35,168,171	3,594,446	4,413,490	909,151	10,356,867	20,614,669	58.6	14,553,502	4,988,770	7,629,756	5,340,735
Kansas, Oklahoma & Gulf	Dec.	328	420,199	1,217	425,326	75,567	40,644	19,328	146,285	303,982	71.5	121,344	Cr. 5,525	90,437	133,625
	12 mos.	328	4,896,095	14,216	4,954,893	637,832	393,985	178,041	1,415,150	2,827,445	57.1	2,127,448	758,666	988,549	755,871
Lake Superior & Ishpeming	Dec.	156	48,602	85	53,910	33,383	49,768	1,653	48,467	149,931	278.1	—96,021	46,974	—133,654	—90,480
	12 mos.	156	2,966,025	980	3,678,720	496,331	477,774	18,375	907,507	2,010,918	54.5	1,667,802	871,694	863,773	286,571
Lehigh & Hudson River	Dec.	96	270,909	.....	271,400	40,169	38,296	7,625	104,168	198,716	73.2	72,684	30,011	19,544	16,547
	12 mos.	96	3,049,811	.....	3,060,422	529,446	431,068	86,470	1,071,220	2,213,635	72.3	846,787	349,354	226,910	233,649
Lehigh & New England	Dec.	193	693,191	.....	700,936	68,481	98,855	13,605	220,813	425,598	60.7	275,338	190,482	78,125	442,851
	12 mos.	193	7,472,131	.....	7,552,196	857,224	1,158,043	126,234	2,358,517	4,797,730	63.5	2,754,466	1,380,014	1,496,371	1,591,373
Lehigh Valley	Dec.	1,252	5,250,369	428,539	6,094,233	981,497	853,132	140,115	3,035,968	5,296,410	86.9	797,823	476,299	—16,659	1,558,309
	12 mos.	1,253	63,574,147	4,502,262	72,670,963	9,937,974	11,857,874	1,582,664	34,079,673	60,410,988	83.1	12,259,975	5,595,677	4,279,880	6,434,473
Louisiana & Arkansas	Dec.	756	1,403,799	75,202	1,561,106	177,641	113,749	48,910	503,713	891,508	57.1	669,598	272,927	277,006	236,822
	12 mos.	756	14,961,458	661,667	16,286,949	2,128,396	1,602,110	489,354	5,132,949	9,880,644	60.7	6,406,305	2,707,295	2,485,500	2,202,145

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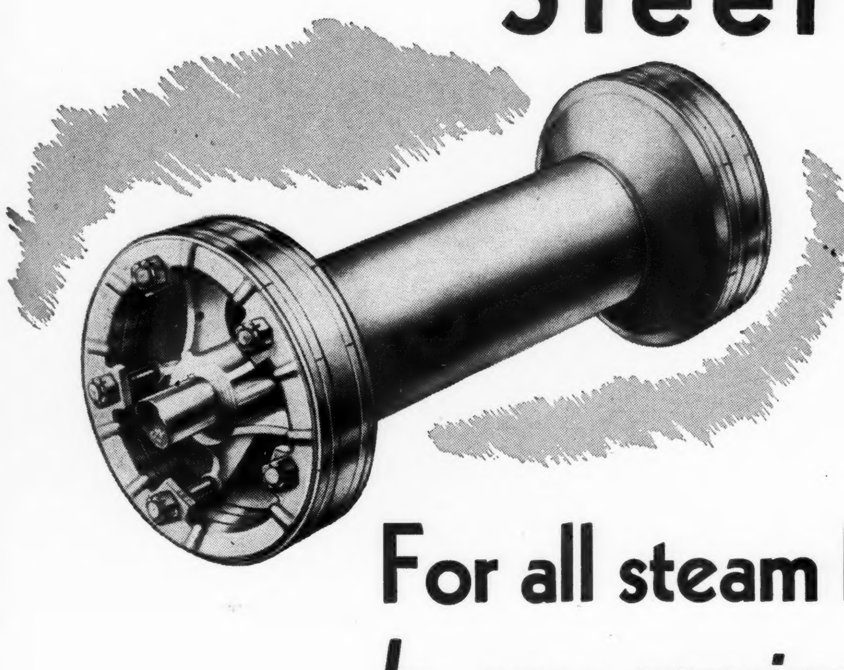


REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1947—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income 1947	Net railway operating income 1946
Louisville & Nashville	Dec.	4,759	$15,309,704	$1,431,123	$18,527,774	$2,287,345	$3,466,582	$319,339	$7,779,665	$14,513,839	78.3	$4,013,935	$2,500,280	$2,199,340	$1,187,769
	12 mos.	4,766	162,111,513	15,560,546	189,697,168	27,010,222	39,876,116	3,334,224	79,199,586	156,337,231	82.4	33,359,937	24,109,728	16,280,657	15,595,486
Maine Central	Dec.	988	1,820,716	193,808	2,279,725	339,789	424,949	18,941	995,093	1,846,035	81.0	433,690	5,553	305,034	126,755
	12 mos.	988	19,479,851	2,408,295	23,460,988	3,984,218	4,113,013	214,524	9,292,823	18,378,282	78.3	5,082,706	2,169,637	2,166,610	1,492,637
Midland Valley	Dec.	334	195,565	78	200,010	31,824	19,352	6,382	60,017	126,925	63.5	73,085	24,981	38,651	14,157
	12 mos.	334	1,953,483	231	1,993,826	435,267	210,640	39,514	617,528	1,384,422	69.4	609,404	256,400	268,921	144,988
Minneapolis & St. Louis	Dec.	1,408	1,554,727	13,059	1,659,706	213,945	203,932	105,097	582,759	1,187,522	71.6	472,184	227,412	201,936	171,995
	12 mos.	1,408	17,565,983	133,529	18,377,538	2,687,832	2,746,731	1,116,870	6,124,567	13,605,943	74.0	4,771,595	2,420,367	1,914,674	443,938
Minneapolis, St. Paul & S. S. Marie	Dec.	3,225	2,409,662	107,905	2,834,735	507,156	458,530	66,146	1,311,112	2,437,872	86.0	396,863	368,935	3,928	—110,813
	12 mos.	3,224	29,161,330	1,580,086	32,888,486	5,976,227	5,318,554	669,423	13,782,952	26,888,587	81.8	5,999,899	3,566,226	2,033,179	1,018,068
Duluth, South Shore & Atlantic	Dec.	530	433,350	11,484	487,393	53,615	85,813	15,211	199,995	364,618	74.8	122,775	35,660	60,888	—349
	12 mos.	530	5,035,965	150,888	5,517,694	1,091,325	873,582	180,650	2,182,420	4,443,737	80.5	1,073,957	342,459	537,459	10,775
Spokane International	Dec.	152	147,284	2,133	160,595	23,188	9,018	4,018	52,064	95,576	59.5	65,019	18,578	35,909	37,754
	12 mos.	152	1,787,085	20,037	1,925,925	401,717	187,375	44,738	662,440	1,386,903	72.0	539,022	171,523	222,716	214,401
Mississippi Central	Dec.	148	167,905	—653	170,861	34,653	18,059	11,579	44,649	117,297	68.7	53,564	20,986	20,084	52,429
	12 mos.	148	1,736,387	—1,744	1,781,131	421,283	202,208	128,831	458,440	1,300,293	73.0	480,838	159,540	165,429	109,322
Missouri & Arkansas	Dec.	.....	—5,222	—2	—5,065	6,946	2,605	.....	502	12,101	100	—17,166	13,311	—30,471	—24,152
	12 mos.	.....	—23,880	418	—16,214	91,640	36,963	608	12,497	170,553	100	—186,767	25,872	—215,267	—194,938
Missouri-Illinois	Dec.	172	364,027	414	368,223	56,789	33,298	6,940	103,834	208,920	56.7	159,303	97,500	43,756	62,095
	12 mos.	172	4,153,740	4,376	4,190,524	682,213	430,370	72,941	1,156,435	2,430,234	58.0	1,760,290	762,590	774,442	629,478
Missouri-Kansas-Texas Lines	Dec.	3,253	5,247,333	429,054	6,600,554	872,984	793,678	202,104	2,587,322	4,743,847	71.9	1,856,707	500,835	1,088,126	481,241
	12 mos.	3,253	57,908,042	4,905,466	68,816,972	10,648,025	9,715,231	2,427,498	27,523,967	53,440,066	77.7	15,376,906	6,357,696	5,843,630	4,398,339
Missouri Pacific	Dec.	7,011	15,304,583	1,259,850	18,894,440	2,891,164	2,930,184	371,447	7,663,666	14,539,656	77.0	4,354,784	1,417,261	2,127,223	2,119,732
	12 mos.	7,022	167,324,602	15,396,444	199,622,368	30,381,918	34,055,190	4,477,553	78,698,696	155,122,949	77.7	44,499,419	14,375,590	21,543,724	19,803,712
Gulf Coast Lines	Dec.	1,737	3,494,792	118,007	3,891,222	666,768	446,785	81,771	1,372,355	2,692,462	69.2	1,198,760	272,707	627,672	380,982
	12 mos.	1,735	37,310,136	1,138,226	40,357,496	7,387,449	4,778,205	846,815	13,458,326	27,811,993	68.9	12,545,503	2,999,316	6,295,372	5,956,787
International-Great Northern	Dec.	1,110	2,376,609	225,244	3,028,193	427,672	488,291	48,252	1,305,246	2,394,016	79.1	634,177	129,339	291,273	1,976
	12 mos.	1,110	24,239,422	2,679,406	30,147,754	5,335,121	4,830,852	549,358	13,180,408	25,342,858	84.1	4,804,896	1,632,055	1,291,216	281,482
Monongahela	Dec.	170	728,621	1,361	732,959	61,849	59,754	841	263,471	390,515	53.3	342,444	107,711	87,966	73,277
	12 mos.	170	8,256,121	15,746	8,319,807	837,823	756,196	10,059	2,405,332	4,067,403	48.9	4,252,404	1,249,101	1,656,799	936,808
Montour	Dec.	51	218,097	.....	219,622	8,053	87,278	692	88,990	194,719	88.7	24,903	41,117	41,132	31,228
	12 mos.	51	3,144,763	.....	3,165,007	308,997	818,011	11,232	1,077,260	2,323,677	73.4	841,330	653,068	742,621	479,038
Nashville, Chattanooga & St. Louis	Dec.	1,051	2,581,983	198,098	3,288,554	603,773	446,515	111,738	1,288,093	2,572,688	78.2	715,866	333,550	329,369	931,356
	12 mos.	1,052	26,524,425	2,264,769	31,875,843	5,423,132	5,410,563	1,183,098	13,295,915	26,694,053	83.7	5,181,790	3,168,526	1,936,033	1,495,112
New York Central	Dec.	10,746	44,743,429	15,069,526	69,831,042	8,827,220	14,510,337	939,063	36,951,020	64,704,245	92.7	5,126,797	Cr.2,585,076	5,531,807	—132,934
	12 mos.	10,746	496,734,880	133,187,777	703,340,527	96,276,653	145,933,566	11,177,010	319,631,654	606,536,857	86.2	96,803,670	52,435,502	24,519,561	15,447,219
Pittsburgh & Lake Erie	Dec.	223	3,313,291	114,137	3,586,485	221,538	817,921	58,861	1,336,917	2,619,781	73.0	966,704	861,402	809,519	272,224
	12 mos.	223	35,267,913	1,197,531	38,077,699	4,692,017	10,094,438	671,804	14,016,841	31,281,838	82.2	6,795,861	6,875,881	7,476,516	3,270,806
New York, Chicago & St. Louis	Dec.	1,687	8,102,603	152,544	8,589,794	977,470	1,124,034	213,017	3,392,705	6,045,441	70.4	2,544,353	986,890	1,086,293	560,018
	12 mos.	1,687	88,599,332	1,600,849	92,520,841	11,355,089	15,030,977	2,221,785	35,304,017	67,245,584	72.7	25,275,257	9,928,530	10,212,642	8,426,302
New York, New Haven & Hartford	Dec.	1,838	7,418,591	5,179,259	14,582,163	2,340,923	2,157,528	283,082	6,294,044	11,971,567	82.1	2,610,596	1,251,878	329,848	—191,708
	12 mos.	1,840	84,575,535	56,247,305	155,815,387	23,431,237	22,837,510	2,954,219	67,105,504	127,159,796	81.6	28,655,591	11,534,878	4,726,131	958,326
New York Connecting	Dec.	21	654,801	.....	678,879	73,035	13,850	.....	72,696	162,283	23.9	516,596	29,066	491,415	76,089
	12 mos.	21	2,464,761	.....	2,678,605	978,336	193,017	.....	713,822	1,915,034	71.5	763,571	693,045	634,287	1,031,126
New York, Ontario & Western	Dec.	544	549,238	4,421	607,614	136,882	102,005	27,797	356,123	653,511	107.6	—45,897	69,523	—191,506	—181,910
	12 mos.	544	7,505,248	120,278	8,292,069	1,530,515	1,369,033	319,832	4,240,238	7,806,219	94.1	485,850	640,979	—1,299,221	—1,672,747
New York, Susquehanna & Western	Dec.	120	315,023	45,511	375,507	31,582	40,504	5,790	176,527	281,128	74.9	94,379	39,295	—3,875	—135,835
	12 mos.	120	3,569,099	480,293	4,240,938	423,777	506,553	60,128	1,820,052	3,079,028	72.5	1,161,910	433,052	234,596	—90,745
Norfolk & Western	Dec.	2,129	13,501,569	615,466	15,108,738	1,794,125	2,265,098	245,246	5,000,312	9,844,078	65.2	5,264,660	3,095,109	3,324,783	1,241,990
	12 mos.	2,130	152,827,651	6,646,798	165,861,514	20,808,680	30,593,453	2,785,811	49,949,123	109,373,839	65.9	56,487,675	31,931,041	35,059,045	21,952,677
Norfolk Southern	Dec.	727	778,831	1,511	818,758	279,700	95,844	39,266	306,603	919,691	112.3	—100,933	Cr. 859,816	735,219	28,157
	12 mos.	727	8,507,820	58,324	8,848,074	2,016,940	955,179	476,258	3,429,182	7,573,090	85.6	1,274,984	Cr. 514,612	1,366,212	47,430
Northern Pacific	Dec.	6,909	11,804,947	732,753	14,133,236	2,926,787	1,893,478	295,462	5,018,156	10,742,134	76.0	3,391,102	1,900,762	1,858,825	1,060,963
	12 mos.	6,919	123,332,649	7,563,305	142,591,148	25,499,481	25,956,019	2,847,668	50,942,655	112,436,547	78.9	30,154,601	17,466,236	18,005,493	13,351,894
Northwestern Pacific	Dec.	331	632,866	8,401	675,154	182,656	92,595	4,158	297,137	586,939	86.9	88,215	42,692	—2,106	—72,752
	12 mos.	331	6,630,765	113,931	7,008,536	1,503,062	864,361	50,271	3,146,545	5,687,909	81.2	1,320,627	474,602	416,287	—892,539
Oklahoma City-Ada-Atoka	Dec.	132	64,765	.....	66,482	21,072	4,717	1,636	26,577	57,601	86.6	8,881	2,901	—2,968	22,451
	12 mos.	132	774,748	94	790,269	216,956	39,129	14,216	262,956	569,483	72.1	220,786	65,508	42,892	65,172
Pennsylvania	Dec.	10,108	52,359,548	14,400,505	76,770,690	10,041,616	17,403,843	1,337,123	38,071,367	69,700,786	90.8	7,069,904	5,560,661	312,548	717,747
	12 mos.	10,115	665,657,125	159,327,226	903,268,089	105,534,745	202,303,685	14,195,266	432,927,566	789,877,541	87.4	113,390,548	69,970,338	32,311,073	25,917,224
Long Island	Dec.	376	1,235,821	2,348,170	3,841,831	799,382	588,363	15,863	2,215,875	3,689,780	96.0	152,051	482,981	—672,352	—380,052
	12 mos.	376	14,630,292	30,603,763	47,783,140	6,413,832	7,725,249	284,345	25,240,148	40,608,832	85.0	7,174,308	5,594,202	—2,190,366	633,216

Table continued on next left-hand page.

Now! 1130 more Car Sets for PACIFIC FRUIT EXPRESS

In the summer of 1946, P. F. E. bought their *first* A. S. F. Ride-Control Trucks—5000 car sets for new 40-ton freezers.

And now that much of this new equipment has gone into service, Ride-Control Trucks again have been purchased—this time for *existing rolling stock.* As a part of the P. F. E. program for 1948, 1130 rebuilt refrigerators also will roll on Ride-Control.

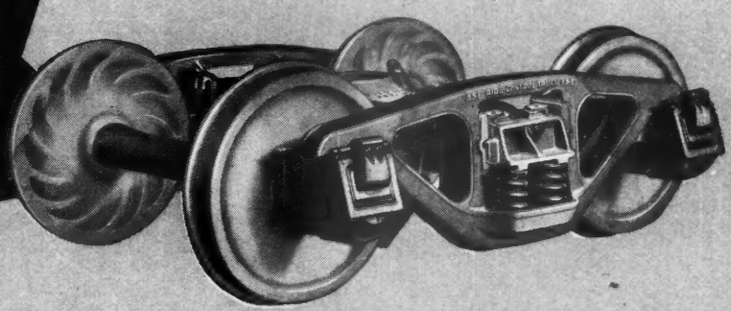
Pacific Fruit Express has specified Ride-Control Trucks for *nearly fifty miles* of new and rebuilt cars. They want the *best* equipment they can get for the fast, safe, gentle transportation of perishables.

A-S-F *Ride-Control* TRUCK

NO SPRING PLATES • NO SPRING PLANKS

LONG SPRING TRAVEL • CONSTANT FRICTION CONTROL

Ride-Control Trucks cut operating costs *all* ways. Controlled spring action protects lading—saves wear and tear on rolling stock and roadbed. And better "tracking" is the answer to today's speed needs. *Whatever* the type of car, the load, or the service, Ride-Control Trucks are an excellent investment in transportation economy.



AMERICAN STEEL FOUNDRIES

MINT-MARK OF ⬡ FINE CAST STEEL

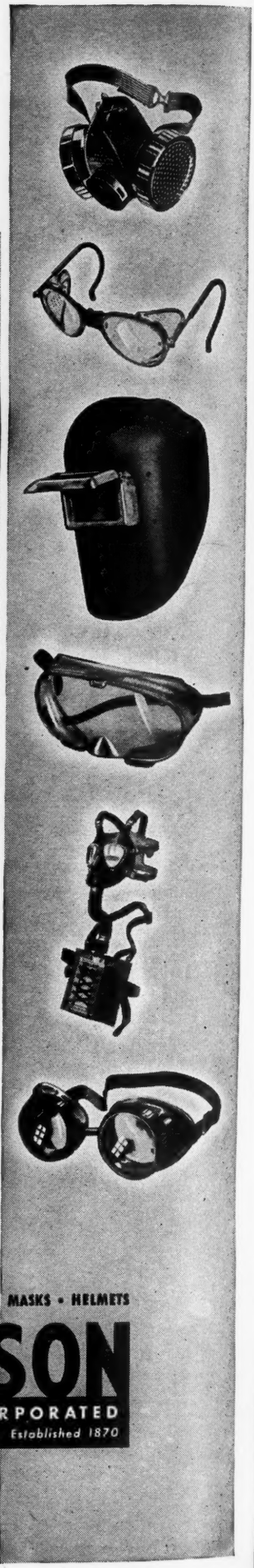
REVENUES AND EXPENSES OF RAILWAYS

MONTH OF DECEMBER AND TWELVE MONTHS OF CALENDAR YEAR 1947—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Railway tax-accruals	Net railway operating income: 1947	1946
Pennsylvania-Reading Seashore Lines	Dec.	389	$532,562	$182,747	$769,319	$142,783	$92,397	$7,365	$567,915	$838,414	109.0	—$69,095	$103,338	—$306,920	—$279,427
	12 mos.	389	5,958,087	5,018,355	11,432,302	2,227,790	1,374,213	120,297	6,759,836	10,794,446	94.4	637,856	1,218,223	—2,208,890	—1,652,196
Pittsburg & Shawmut	Dec.	97	238,602	.....	240,761	39,943	52,351	3,005	69,060	177,528	73.7	63,233	9,917	43,212	61,081
	12 mos.	97	2,566,150	.....	2,577,922	491,553	399,092	42,197	731,596	1,763,023	68.4	814,899	89,366	595,707	247,844
Pittsburgh & West Virginia	Dec.	135	557,205	.....	608,514	179,448	111,152	38,478	190,233	572,117	94.0	36,397	Cr. 476,007	555,368	—31,722
	12 mos.	135	6,527,670	31	6,835,706	1,218,976	1,374,178	420,599	1,804,318	5,202,772	76.1	1,632,934	371,143	1,639,649	428,693
Reading	Dec.	1,356	9,470,916	759,129	10,910,433	1,772,109	2,063,043	172,717	4,604,622	8,920,514	81.8	1,989,919	983,153	864,076	1,422,905
	12 mos.	1,357	102,610,011	7,674,300	116,760,042	18,376,085	22,048,542	1,440,207	45,776,033	90,894,119	77.8	25,865,823	12,972,305	11,951,972	8,331,279
Richmond, Fredericksburg & Potomac	Dec.	118	1,210,480	488,901	2,187,775	244,376	327,839	21,020	906,745	1,617,720	73.9	570,055	316,825	158,309	323,103
	12 mos.	118	14,335,407	6,947,779	23,926,429	2,884,761	3,484,959	218,673	9,700,181	17,649,698	73.8	6,276,731	3,249,921	2,169,508	2,919,319
Rutland	Dec.	407	364,744	42,711	520,045	41,209	92,862	13,816	275,005	441,579	84.9	78,466	48,457	15,143	—43,314
	12 mos.	407	4,258,975	568,194	5,838,019	922,540	1,113,496	169,649	3,292,328	5,715,360	97.9	122,659	454,622	—539,785	—277,404
St. Louis-San Francisco	Dec.	4,645	8,454,537	607,594	10,196,577	1,150,811	1,417,870	237,093	4,258,566	7,473,341	73.3	2,723,236	1,552,506	1,338,344	8,727,805
	12 mso.	4,645	88,689,058	7,285,281	104,157,852	14,685,970	17,070,824	2,521,956	43,648,729	82,343,845	79.1	21,814,007	11,658,470	10,373,298	13,394,662
St. Louis, San Francisco & Texas	Dec.	160	323,492	12,192	398,951	50,059	28,911	16,108	160,682	266,083	66.7	132,868	47,902	55,275	16,013
	12 mos.	160	3,672,271	142,192	4,063,317	590,039	376,994	172,367	1,785,609	3,040,544	74.8	1,022,773	358,535	317,098	100,544
St. Louis Southwestern Lines	Dec.	1,575	5,064,039	104,250	5,412,764	527,219	626,405	147,868	1,693,300	3,165,059	58.5	2,247,705	1,683,720	341,895	845,024
	12 mos.	1,575	51,912,046	897,402	54,642,987	6,910,613	6,550,904	1,529,626	16,475,718	33,316,140	61.0	21,326,847	9,406,943	9,879,473	7,332,181
Seaboard Air Line	Dec.	4,152	8,873,510	1,362,400	11,582,009	1,696,298	1,958,089	296,278	4,651,109	9,133,858	78.9	2,448,151	1,179,159	936,898	5,492,828
	12 mos.	4,156	94,387,552	15,621,362	119,140,955	18,898,448	21,300,936	3,382,793	47,352,721	96,767,098	81.2	22,373,857	9,988,044	8,789,771	14,048,763
Southern Railway	Dec.	6,483	16,372,242	1,708,453	20,628,580	2,079,238	3,860,477	327,515	7,998,092	15,042,668	72.9	5,585,912	2,782,881	2,335,736	3,067,948
	12 mos.	6,484	186,185,803	20,866,952	222,833,436	31,839,402	40,522,725	3,905,092	86,455,297	171,673,513	77.0	51,159,923	24,898,426	21,375,013	19,311,146
Alabama Great Southern	Dec.	316	1,309,766	131,642	1,623,294	158,957	300,723	31,295	536,611	1,081,909	66.7	541,385	388,881	213,743	603,711
	12 mos.	316	13,989,109	1,598,426	16,715,178	2,333,937	3,578,815	346,119	5,930,221	12,815,938	76.7	3,899,240	2,639,174	1,811,539	1,116,130
Cinn., New Orleans & Texas Pacific	Dec.	337	2,746,957	176,754	3,241,214	318,109	662,048	45,103	959,443	2,088,035	64.4	1,153,179	707,026	548,470	296,442
	12 mos.	337	30,184,341	2,863,193	34,854,625	3,963,387	7,061,022	634,930	10,550,241	23,413,171	67.2	11,441,454	6,460,374	6,193,843	3,805,497
Georgia Southern & Florida	Dec.	397	434,474	103,311	641,694	115,742	77,769	7,765	233,314	452,242	70.5	189,452	75,494	56,364	339,256
	12 mos.	397	4,566,999	1,070,225	6,201,458	1,273,519	804,789	86,506	2,447,001	4,807,574	77.5	1,393,884	536,064	352,081	547,403
New Orleans & Northeastern	Dec.	204	910,996	72,460	1,074,683	104,879	127,949	21,072	275,222	565,741	52.6	508,942	262,692	205,053	225,791
	12 mos.	204	9,512,484	802,906	11,008,099	1,422,207	1,216,169	207,777	3,026,208	6,301,208	57.2	4,706,891	2,228,239	1,978,715	938,589
Southern Pacific	Dec.	8,195	28,855,266	4,166,618	37,158,305	5,043,232	7,052,785	757,792	15,725,167	30,640,378	82.5	6,517,927	3,150,725	2,416,691	2,815,224
	12 mos.	8,216	332,070,500	50,132,166	414,175,291	49,143,334	75,165,855	7,964,839	167,060,843	322,624,231	77.9	91,551,060	46,193,506	30,074,119	26,607,502
Texas & New Orleans	Dec.	4,316	9,022,113	971,561	11,066,185	1,350,756	1,438,279	215,860	4,361,383	7,817,841	70.6	3,248,344	1,325,075	1,418,158	1,100,281
	12 mos.	4,317	95,821,115	11,188,412	114,845,722	14,017,484	15,466,765	2,242,823	42,684,064	79,618,245	69.3	35,227,477	14,909,693	14,581,812	14,917,024
Spokane, Portland & Seattle	Dec.	945	1,875,028	85,067	2,167,114	602,021	220,089	17,472	726,714	1,668,495	77.0	498,619	250,791	147,546	810,329
	12 mos.	945	20,411,267	919,351	22,828,278	5,502,030	2,659,867	211,445	8,134,306	17,503,078	76.7	5,325,200	2,084,330	1,832,871	2,114,809
Tennessee Central	Dec.	286	389,812	8,180	439,233	64,825	75,507	8,935	208,372	375,743	85.5	63,490	22,326	—12,758	—73,433
	12 mos.	286	3,885,163	97,774	4,253,442	741,008	844,699	109,277	1,962,302	3,843,481	90.4	409,961	232,101	—170,976	—282,497
Texas & Pacific	Dec.	1,854	5,501,718	563,047	6,881,228	842,301	1,104,988	164,406	2,600,668	5,001,671	72.7	1,879,557	439,574	1,129,746	653,180
	12 mos.	1,864	53,367,815	5,970,581	64,704,829	8,675,239	9,974,776	1,876,601	24,728,150	48,742,474	75.3	15,962,355	5,264,493	7,742,413	7,561,381
Texas Mexican	Dec.	162	304,433	44	334,808	40,890	25,246	7,003	66,587	154,291	46.1	180,517	61,735	99,843	7,266
	12 mos.	162	2,669,389	1,169	3,024,971	433,196	281,372	60,933	730,147	1,667,187	55.1	1,357,784	482,660	676,023	289,149
Toledo, Peoria & Western	Dec.	239	284,564	9	288,853	49,642	21,175	35,260	108,653	238,739	82.7	50,114	13,116	15,908	—63,592
	12 mos.	239	1,721,526	28	1,771,440	483,574	212,229	184,550	732,119	1,799,116	101.6	—27,676	157,568	—303,574	—641,811
Union Pacific System	Dec.	9,756	31,240,764	4,199,886	40,540,730	4,208,341	6,433,060	789,980	13,889,316	27,392,917	67.6	13,147,813	7,682,692	4,307,725	2,518,053
	12 mos.	9,772	330,468,521	46,412,313	410,053,705	53,128,675	69,181,745	8,486,056	146,741,604	300,454,624	73.3	109,599,081	58,431,620	36,757,231	26,953,352
Utah	Dec.	111	207,596	.....	207,956	9,082	56,987	730	86,851	161,909	77.9	46,047	14,625	45,444	50,219
	12 mos.	111	1,898,742	.....	1,900,547	312,391	583,024	8,255	751,036	1,740,700	91.6	159,847	171,460	61,329	89,774
Virginian	Dec.	661	2,879,528	7,184	2,992,963	394,835	628,606	37,520	829,961	1,961,663	65.5	1,031,300	758,000	480,513	479,592
	12 mos.	661	34,480,958	72,769	36,551,799	3,919,511	7,681,641	417,577	8,946,101	21,894,573	59.9	14,657,226	7,632,700	8,779,265	4,752,308
Wabash	Dec.	2,393	7,266,726	529,675	8,599,491	868,007	643,113	246,919	3,513,689	5,709,337	66.4	2,890,154	1,435,148	998,187	647,425
	12 mos.	2,393	82,789,469	5,628,396	94,657,837	13,378,221	12,486,705	2,735,146	37,015,280	69,407,447	73.3	25,250,390	10,029,903	10,089,578	6,682,347
Ann Arbor	Dec.	294	661,069	5,223	688,465	87,189	34,475	24,055	352,197	520,465	75.6	168,000	82,924	59,074	—22,518
	12 mos.	294	7,341,674	70,478	7,692,424	957,338	1,376,359	257,831	3,353,141	6,130,495	79.7	1,561,929	745,068	617,177	99,334
Western Maryland	Dec.	837	3,593,405	15,195	3,746,893	421,592	663,044	65,721	1,343,002	2,632,346	70.2	1,114,547	483,778	730,092	710,727
	12 mos.	837	40,151,972	183,128	42,084,543	5,708,965	7,162,543	754,616	13,898,034	28,948,563	68.8	13,135,980	5,603,778	8,028,699	5,295,956
Western Pacific	Dec.	1,195	3,772,953	171,488	4,039,201	513,098	421,090	118,028	1,278,504	2,555,599	63.3	1,483,602	433,653	985,027	—16,045
	12 mos.	1,195	36,772,258	2,123,682	39,990,009	6,353,364	5,810,110	1,461,560	14,424,879	30,049,859	75.1	9,940,150	3,853,756	5,085,592	4,500,292
Wheeling & Lake Erie	Dec.	505	2,665,347	.....	2,745,660	376,019	509,034	62,156	885,978	1,909,928	69.6	835,732	306,729	693,373	523,375
	12 mos.	505	28,985,771	13	30,265,184	3,853,234	4,879,072	673,512	9,578,562	19,779,949	65.3	10,494,235	5,802,301	6,608,277	3,812,609
Wisconsin Central	Dec.	1,051	2,052,471	49,567	2,333,458	237,279	324,558	63,846	1,009,151	1,727,057	74.0	606,401	164,575	280,303	98,053
	12 mos.	1,051	24,033,990	585,979	26,443,477	3,053,489	3,753,446	617,002	10,844,901	19,173,999	72.5	7,269,478	2,327,247	3,489,563	2,830,972

Eyes Are Safe Behind Willson Cup Goggles

Style CC402



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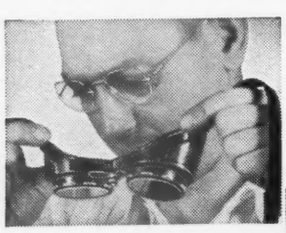
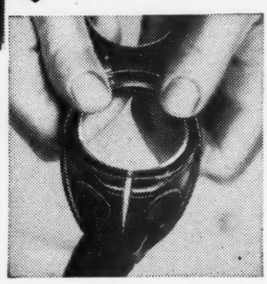


The Cover-All* style is roomy enough to fit over ordinary correction spectacles.

Lens replacement on the CC402 shown above simplified by split end cups and spring locking.



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Employees Present Rules Case to Emergency Board

(Continued from page 66)

tenders he represented, or who represented the other 95 per cent of that craft. Counsel asked the witness if he had figured it out that a switchtender performing a night trick on a Sunday under this rule, the proposed night and Sunday differentials, and the 30 per cent increase, would get about $20 for his basic day's work, to which Mr. McDaniels replied that he had not, but that he thought he should receive $30 for that service.

Mr. McDaniels testified further on the union proposal to increase the 52-cent differential between yard conductors and yard trainmen. Mr. McDaniels, supported by several switchmen subsequently called as witnesses, stated that the increased differential was needed to create an incentive to yard trainmen to accept conductors' jobs. They are reluctant to bid on vacancies, he explained, because the difference is nowhere near commensurate with the added responsibilities. As a result, the witness averred, junior men on the switchmen's rosters are assigned to these positions for which they are seldom fully qualified. If they refuse to accept the foreman's position, they are permanently restricted to the trainmen's roster.

The above testimony completed the employees' presentation with respect to their first group of rule proposals which were to precede advancement of the wage demand, and Henry P. Melnikow, consulting economist in labor relations, San Francisco, Cal., began 4 full days of testimony, during which he introduced 23 exhibits, attempting to demonstrate the need for the additional 30 per cent, or $3 daily minimum increase in pay. Mr. Melnikow undertook to show by various statistical presentations that the "real wages" of railroaders had not increased proportionately to those of workers in other industries, that their occupation was more hazardous, and that the increased cost of living had adversely affected their purchasing power not only in population centers but in small communities as well.

Peck Named Assistant Director of I. C. C. Bureau of Traffic

The Interstate Commerce Commission has appointed Clarence H. Peck as assistant director of its Bureau of Traffic.

Mr. Peck, who succeeds the late W. T. Hayes, entered the service of the Commission in 1917 as a freight tariff examiner. In 1925, he was appointed an examiner in the Bureau of Formal Cases, remaining in that position, except for several months in 1928, until November 16, 1935, when he was appointed assistant chief of the Section of Traffic, Bureau of Motor Carriers. Since January 1, 1945, when that section was merged with the Bureau of Traffic, Mr. Peck has served as assistant to the director of the bureau.

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